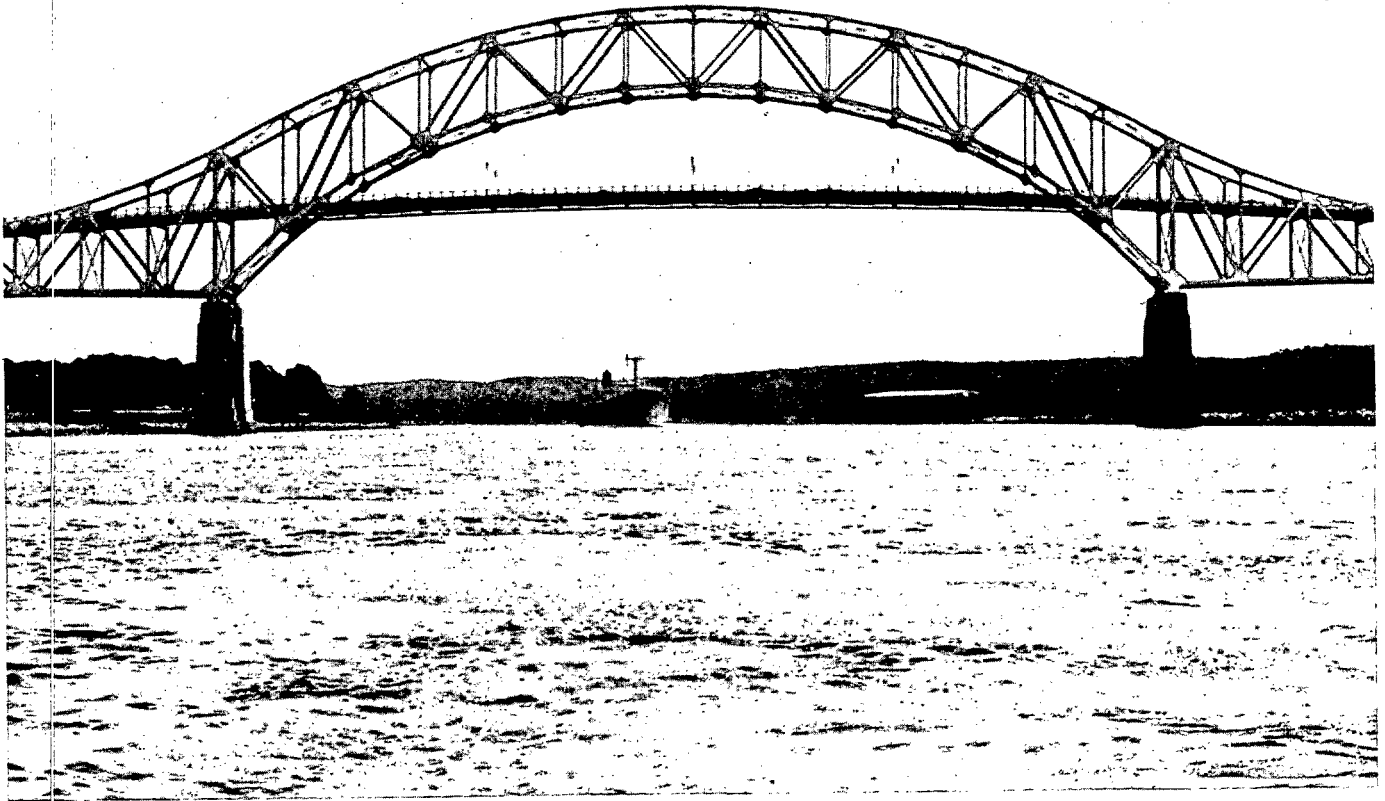


# CAPE COD CANAL BOURNE & SANDWICH, MASSACHUSETTS



FINAL SUPPLEMENTAL  
ENVIRONMENTAL IMPACT STATEMENT

SUPPLEMENT NO. 1  
MAJOR REHABILITATION OF THE BOURNE  
AND SAGAMORE HIGHWAY BRIDGES



DEPARTMENT OF THE ARMY  
NEW ENGLAND DIVISION, CORPS OF ENGINEERS  
WALTHAM, MA.

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MAY 1979

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FINAL SUPPLEMENTAL  
ENVIRONMENTAL IMPACT STATEMENT

ON

OPERATION AND MAINTENANCE

OF THE

CAPE COD CANAL

SUPPLEMENT NO. 1

MAJOR REHABILITATION

OF THE

BOURNE AND SAGAMORE HIGHWAY BRIDGES

MAY 1979

New England Division  
U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

## SUMMARY

### Operation and Maintenance of the Cape Cod Canal Final EIS

#### Supplement No. 1

#### Major Rehabilitation of the Bourne and Sagamore Highway Bridges

( ) Draft

(X) Final Environmental Statement

Responsible Office: Division Engineer, U.S. Army Engineer  
Division, New England, 424 Trapelo Road,  
Waltham, Mass. 02154  
Telephone: 617-894-2400

1. Name of Action: (X) Administrative ( ) Legislative
2. Description of Action: This document is Supplement No. 1 to the Final Environmental Statement concerning "Operation and Maintenance of the Cape Cod Canal", issued in April 1977. The project provides for major rehabilitation of the Bourne and Sagamore highway bridges crossing the Cape Cod Canal. The work is expected to be accomplished over a period of four years, beginning in the summer of 1979 and ending in the spring of 1983. The Bourne Bridge will be rehabilitated first, followed by the Sagamore. The major item of work will be replacement of the concrete decks which form the roadways for the bridges. Other work will consist of repairs to structural steel and repainting of both of the superstructures. Also, 8-foot high suicide-detering barriers will be erected atop the railings on the bridges to discourage suicide attempts.
3. a. Positive Environmental Impacts: The project will ensure the continued safe use of the bridges into the future and eliminate the adverse impacts associated with frequent repair work. The suicide-detering barriers should help reduce the incidence of suicides from the bridges.
3. b. Adverse Environmental Impacts: Most adverse impacts concern vehicular traffic, specifically the effects on traffic flow when either the Bourne or the Sagamore Bridge is being rehabilitated. To mitigate these impacts, the peak travel period from just before Memorial Day Weekend to just after Labor Day will be excluded from the traffic-restricting construction schedule. During the rest of each year, one of the four traffic lanes would remain open on the bridge being worked on, and all four lanes of the other bridge would be completely open. The one open lane on the bridge under construction would be reversed on weekdays to handle the morning and afternoon directional peaks in traffic flows, with a similar plan to be

implemented on weekends. Arrangements would be made to clear this lane of traffic to allow passage of emergency and other authorized vehicles. Trucks in excess of one-ton capacity would be excluded from the single open lane at all times and detoured to the fully open bridge. Pedestrians and bicycles would also be excluded from the bridge under construction.

Some economic hardship may be borne by frequent or regular users of the bridges as a result of the traffic impacts. During construction, old and new paint and sand from sandblasting falling from the bridges will cause local nuisance effects to land areas beneath them and to vessel traffic in the canal. Noise pollution due to the construction work itself, plus some addition to the local traffic load as a result of the transport of materials and workers to and from the construction sites may also be anticipated.

4. Alternatives:

- a. No action.
- b. Implementation alternatives explored concern the exact extent of the rehabilitations, selection of materials, establishment of time schedules and mitigation of traffic problems.

5. a. Comments Requested:

Federal

Advisory Council on Historic Preservation  
Department of Commerce  
Department of Energy  
Department of Health, Education and Welfare  
Department of Housing and Urban Development  
Department of Interior  
Environmental Protection Agency  
Federal Highway Administration  
U.S. Coast Guard

State

Adjutant General's Office  
Department of Commerce and Development  
Department of Public Health  
Department of Public Safety  
Department of Public Utilities  
Department of Public Works  
Governor of the Commonwealth of Massachusetts

Massachusetts Historical Commission  
Massachusetts Port Authority  
Office of Environmental Affairs  
Secretary of Transportation and Construction  
State Archaeologist  
State Clearinghouse, Office of State Planning

#### Regional

Cape Cod Planning and Economic Development Commission  
Martha's Vineyard Commission  
Nantucket Regional Planning Commission  
SE Massachusetts Health Planning and Development, Inc.  
Southeastern Massachusetts Regional Planning District

#### Local

Barnstable County Commissioners  
Cape Cod Chamber of Commerce  
Chairman, Board of Selectmen of each town on Cape Cod  
plus nearby towns on the mainland  
Chamber of Commerce of each town on Cape Cod plus  
nearby towns on the mainland  
Martha's Vineyard Chamber of Commerce  
Nantucket Chamber of Commerce

#### Organizations

American Automobile Association  
ALA Auto and Travel Club  
American Youth Hostels  
Massachusetts Audubon Society  
National Coalition for Marine Conservation  
Sierra Club  
The Samaritans

#### Commercial

Almeida Bus Lines  
Baxter Transport, Inc.  
Bonanza Bus Lines, Inc.  
Cape Cod Gas Co.  
Cape Cod Ready Mix  
Hy-Line  
National Railroad Passenger Corporation  
New England Tel. and Tel.  
Packaging Industries  
Plymouth and Brockton St. Railway

Roadway Express, Inc.  
Woods Hole, Martha's Vineyard and Nantucket Steamship  
Authority

5. b. Comments Received:

Federal

Camp Edwards  
Department of Commerce, National Marine Fisheries Service  
Department of Health, Education and Welfare  
Department of Interior  
Environmental Protection Agency  
Federal Highway Administration  
U.S. Coast Guard

State

Department of Public Safety  
Department of Public Works  
Metropolitan District Commission  
Office of Environmental Affairs, Department of  
Environmental Quality Engineering

Regional

Cape Cod Planning and Economic Development Commission  
Southeastern Massachusetts Regional Planning District

Local

Cape Cod Chamber of Commerce  
City of New Bedford, Mayor's Office  
Town of Bourne, Board of Selectmen

Organizations

American Automobile Association  
The Samaritans

Commercial

Plymouth and Brockton St. Railway

Other

William L. Saltonstall

6. Draft Supplemental Statement to CEQ: March 16, 1979

Final Supplemental Statement to CEQ: 17 MAY 1979

## INDEX OF CHANGES TO THE DRAFT SUPPLEMENTAL STATEMENT

The following index identifies substantive changes made to the Draft Supplemental Statement in preparing the Final Supplemental Statement, including those necessitated by comments received on the Draft.

<u>Paragraph in the Draft Supplemental Statement</u>	<u>Description of Change</u>
1.18	Changed 'two daily eight-hour shifts' to 'multiple daily shifts'.
2.16	First sentence changed from 'several thousand of the local residents each day' to 'several thousand vehicles each day'. Rest of the paragraph deleted.
4.07	Added the parenthetical statement: (two on the fully open bridge plus one on the bridge under construction).
4.09	Changed 'school buses, may' to 'school buses, will'.
4.11	First and third sentences deleted. Second sentence changed from 'Construction on the Wareham to Plymouth portion' to 'Construction on the Route 25 project'.
4.21	Entire paragraph deleted. Provided unneeded additional statement on the suicide-detering fence.
9.05-9.07	Changed to update the description of the coordination process relative to the Final Supplemental EIS and to indicate that the next Public Information Workshop would be held this summer.
APPENDIX A	CORRESPONDENCE RECEIVED PRIOR TO ISSUANCE OF THE DRAFT SUPPLEMENTAL EIS - Added responses to comments from the town of Sandwich.



APPENDIX B

COMMENTS AND RESPONSES ON THE DRAFT  
SUPPLEMENTAL EIS - This new Appendix  
in the Final Supplemental EIS includes  
comments that were received during the  
Draft Supplemental EIS review period  
and responses of the Corps of Engineers.

## Table of Contents

	<u>Page</u>
1.00 PROJECT DESCRIPTION	1-1
1.01 Introduction	1-1
1.04 The Cape Cod Canal	1-1
1.08 The Bourne and Sagamore Bridges	1-2
1.10 Project Background	1-2
1.18 Project Description	1-4
2.00 ENVIRONMENTAL SETTING WITHOUT THE PROJECT	2-1
2.01 Socioeconomic Profile	2-1
2.02 Population	2-1
2.06 Economic Structure	2-2
2.12 Transportation	2-3
2.21 Traffic Pressures at the Bridges	2-4
2.25 Threatened and Endangered Species	2-5
2.26 Historical - Archaeological Features	2-5
3.00 RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS	3-1
4.00 PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT	4-1
4.01 Impacts on Traffic	4-1
4.08 Effects of Impacts on Traffic	4-2
4.10 Coordination with Construction of Route 25	4-2
4.12 Pedestrian and Bicycle Access to the Bridges	4-3
4.14 Falling Materials	4-3
4.18 Other Impacts	4-4
4.19 Suicide-detering Fences	4-4
5.00 PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED	5-1
6.00 ALTERNATIVES TO THE PROPOSED ACTION	6-1
6.01 No Action	6-1
6.03 Implementation Alternatives	6-1
7.00 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	7-1

8.00 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF  
RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED  
PROJECT SHOULD IT BE IMPLEMENTED

8-1

9.00 COORDINATION

9-1

APPENDIX A - CORRESPONDENCE RECEIVED PRIOR TO  
ISSUANCE OF THE DRAFT SUPPLEMENTAL EIS

APPENDIX B - COMMENTS AND RESPONSES ON THE DRAFT  
SUPPLEMENTAL EIS

### List of Tables

<u>Number</u>	<u>Title</u>	<u>Following Page</u>
1	Fact Sheet - Cape Cod Canal Highway Bridges	1-1

### List of Figures

<u>Number</u>	<u>Title</u>	<u>Following Page</u>
1	Map of Cape Cod and Surrounding Areas	1-1
2	Cape Cod Canal Area Map	1-1
3	Photograph of Bourne Highway Bridge	1-2
4	Photograph of Sagamore Highway Bridge	1-2
5	Proposed Suicide-detering Fence	4-4

## 1.00 PROJECT DESCRIPTION

### 1.01 Introduction.

The objective of the proposed project is to conduct major rehabilitation of the Bourne and Sagamore highway bridges crossing the Cape Cod Canal. The work is expected to be accomplished over a period of four years, beginning in the summer of 1979 and ending in the spring of 1983. The Bourne Bridge will be rehabilitated first, followed by the Sagamore.

1.02 The purpose of this document is to present the environmental consequences of the proposed action, assess reasonable alternatives and effect public involvement to help minimize the impact of the work as much as possible. It has been prepared as a Supplement to the Final Environmental Statement concerning "Operation and Maintenance of the Cape Cod Canal", issued by the New England Division, Corps of Engineers in April 1977. The reader is referred to that document for more detailed information concerning the canal and its features.

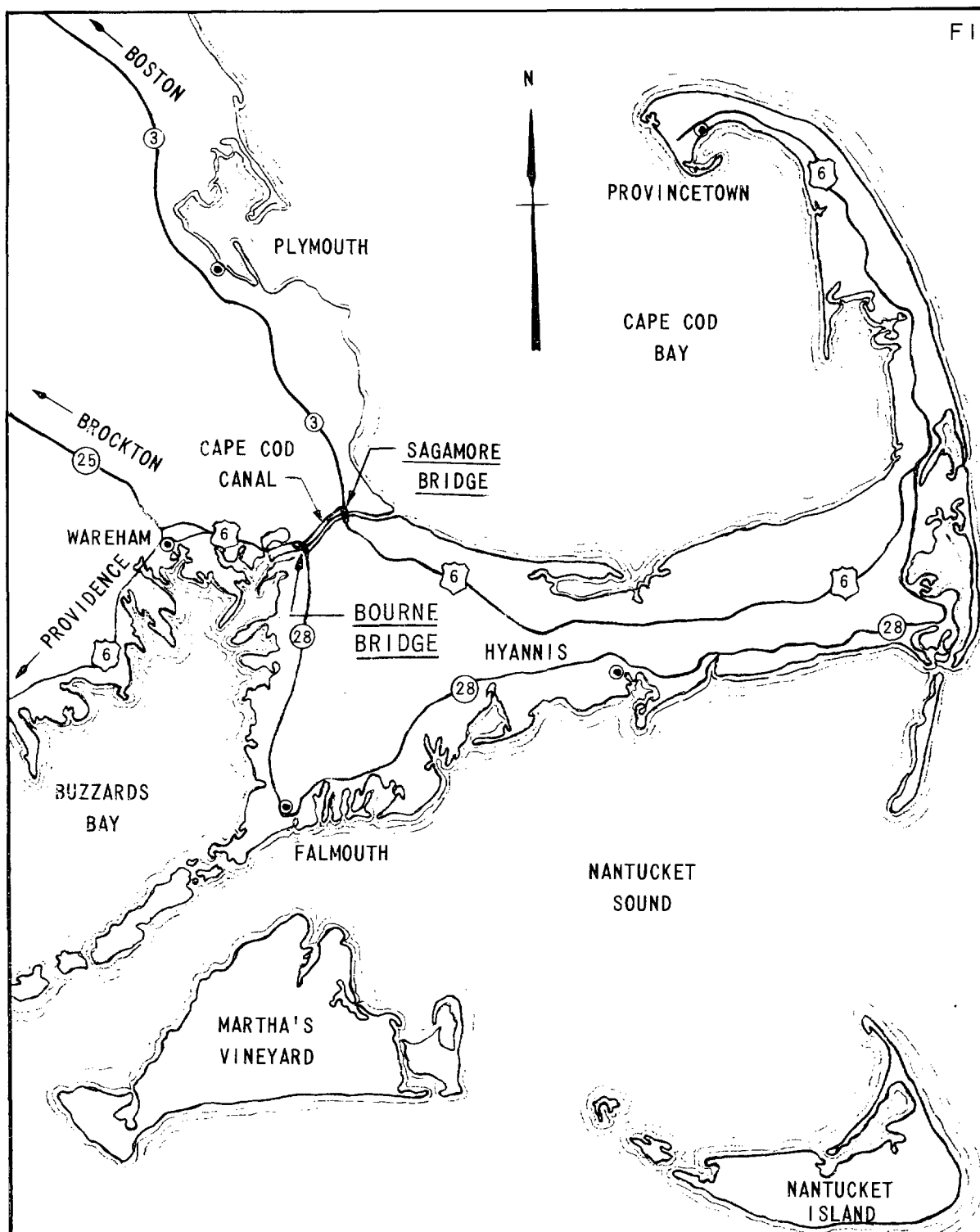
1.03 To help in the discussions that follow, Figure 1 is a map showing Cape Cod, the bridges and the surrounding areas and roads. Figure 2 is a more detailed map of the immediate vicinity of the canal and the bridges. Table 1 is a presentation of facts concerning the bridges themselves.

### 1.04 The Cape Cod Canal.

The Cape Cod Canal is a sea level canal, located about 50 miles south of Boston, Massachusetts at what was formerly a narrow neck of land joining Cape Cod to the mainland. The canal extends from Cape Cod Bay on the east to Buzzards Bay on the west. Cape Cod became an island with the construction of the canal. Communities adjacent to the canal are Bourne and Sandwich. Highways 6 and 28 and a single track rail line cross the canal on three separate bridges.

1.05 Construction of the original Cape Cod Canal was attempted by the Cape Cod Canal Company in 1880. The cost of dredging and excavation proved so great that the project was abandoned. In 1899, the Commonwealth of Massachusetts granted a charter for construction of a canal to the Boston, Cape Cod and New York Canal Company, headed by August Belmont, a New York financier. The cost of construction was estimated at \$12,000,000 and the charter specified a minimum depth of 25 feet at mean low water and minimum width of 100 feet. Work began in 1909 and the State accepted the project as completed in accordance with the charter in 1918. The total cost of \$16,131,000 included canal

FIG. 1

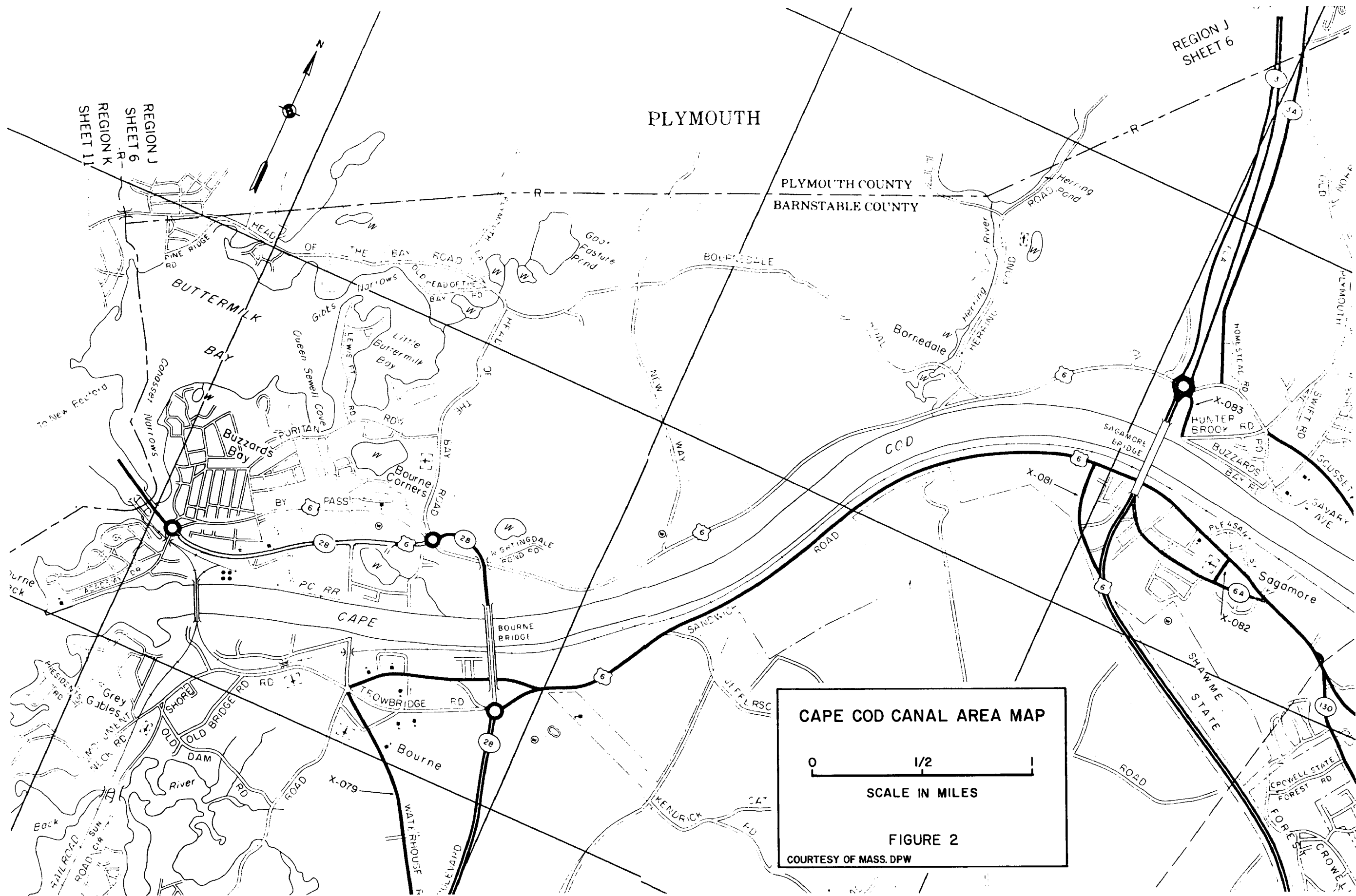


5 0 5 10  
SCALE OF MILES

DEPARTMENT OF THE ARMY  
NEW ENGLAND DIVISION, CORPS OF ENGINEERS  
WALTHAM, MASSACHUSETTS  
CAPE COD CANAL  
BOURNE, MASS.

CAPE COD CANAL BRIDGES  
MAJOR REHABILITATION PROJECT

MAP OF CAPE COD  
AND SURROUNDING AREAS



**CAPE COD CANAL AREA MAP**

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SCALE IN MILES

**FIGURE 2**

COURTESY OF MASS. DPW

**TABLE I**  
**FACT SHEET**  
**CAPE COD CANAL HIGHWAY BRIDGES**

	<u>Bourne<sup>1</sup></u>	<u>Sagamore</u>
Construction Started	1933	1933
Construction Completed	1935	1935
Type of Bridge	Continuous Truss	Continuous Truss
Original Cost	\$1,603,585.60	\$1,364,076.21
Weight of Steel	14,467,330 lb.	10,205,590 lb.
Gallons of Paint (Original Painting)	1410	990
Number of Hanger Cables	44	44
Length of Cables	17'-10½" to 72'-6½"	17'-10½" to 72'-6½"
Size of Cables <sup>2</sup>	3½" Dia.	3½" Dia.
Length of Bridge	2384 Ft.	1408 Ft.
Length of Center Span	616 Ft.	616 Ft.
Length of Side Spans (2)	396 Ft.	396 Ft.
Length Approach Spans (4)	208-270 Ft.	None
Clearance Above Mean High Water (Mid Span)	144 Ft.	144 Ft.
Highest Elevation of Steel Above Mean Sea Level	274 Ft.	275 Ft.
Total Width Truss to Truss	51 Ft.	51 Ft.
Width of Roadway	40 Ft.	40 Ft.
Lane Width	10 Ft.	10 Ft.
Number of Lanes	4	4
Width of Sidewalk	6 Ft.	6 Ft.
Cost of Maintenance Since Completion	\$1,886,860.00	\$1,697,793.00

<sup>1</sup>The Bourne Highway Bridge received "First Place, Class A" in the Annual Bridge Award Competitions, American Institute of Steel Construction as "The Most Beautiful Bridge Built During 1934." (Class A includes bridges costing \$1,000,000 or more)

<sup>2</sup>Each steel cable comprises a center wire rope of seven strands of seven wires each, wrapped in six strands of 37 wires each for a total diameter of 3½ inches. Each cable has an ultimate strength of not less than 950,000 pounds according to the original specifications.



construction, acquisition of land, two highway bridges and one railroad lift bridge, a 3,000 foot breakwater and a 1,000 foot sand catcher at the Cape Cod Bay entrance.

1.06 Strong tides, limited channel width, and sharp bends within the completed canal resulted in numerous shipping accidents. Toll fees did not reach the anticipated levels, thus adding to the financial problems of the project, already too expensive for canal owners.

1.07 During World War I, the canal was taken over by the Federal Railroad Administration. The owners refused to take it back after the war, and after 11 years of negotiations the Federal Government purchased the canal in 1928 for \$11,500,000, placed it under the supervision of the Corps of Engineers and opened it as a toll-free waterway. It was widened to 170 feet a few years later. Between 1932 and 1935 the two existing high level highway bridges and the existing vertical lift railroad bridge were built, replacing the earlier structures. By 1940 the canal had been widened to a maximum width of 540 feet with a minimum depth of 32 feet at mean low water, its present size.

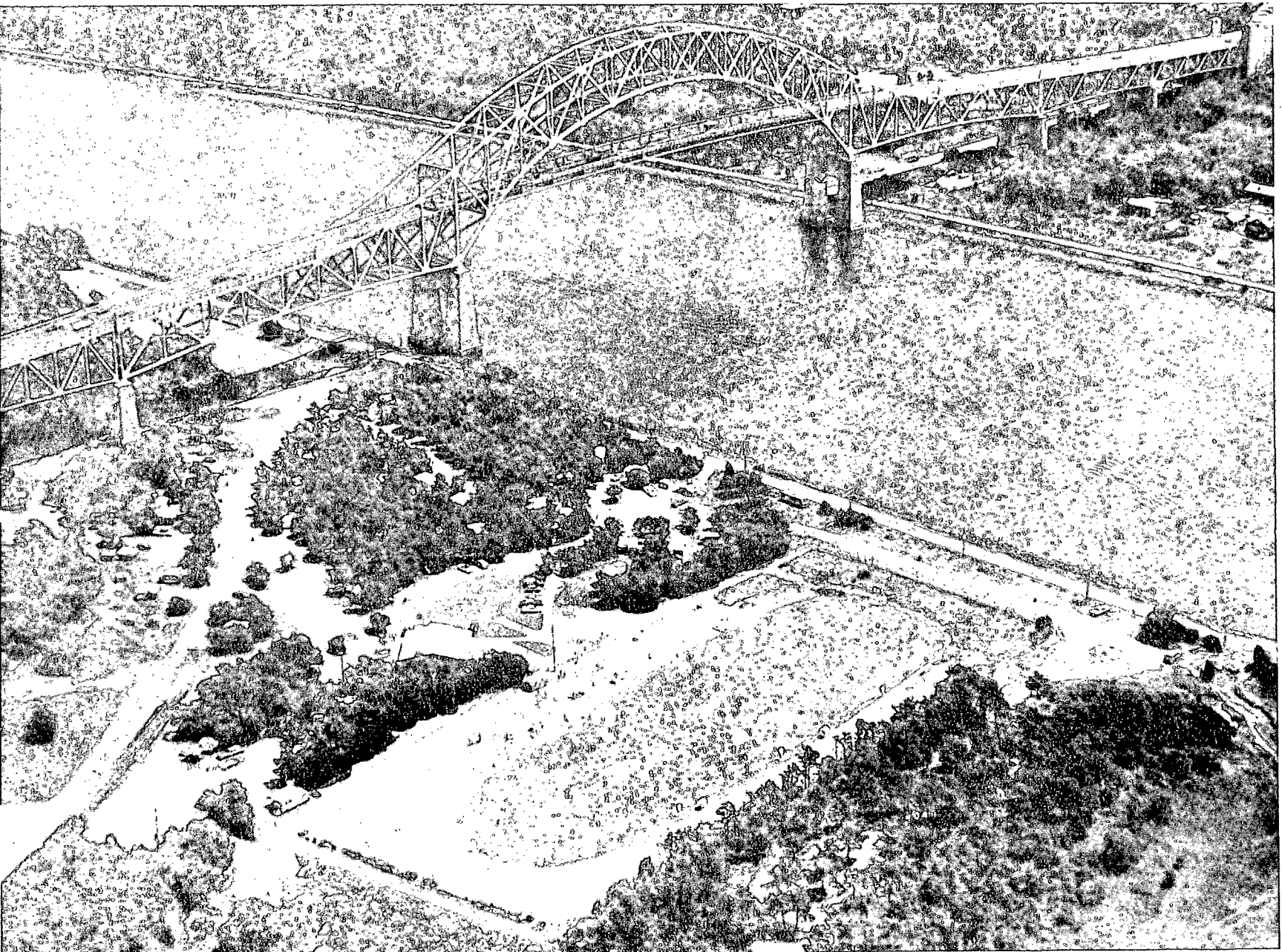
#### 1.08 The Bourne and Sagamore Bridges.

The Bourne and Sagamore highway bridges provide the only crossings of the canal for motorists, pedestrians and cyclists travelling to and from Cape Cod (and further, to and from Martha's Vineyard and Nantucket). The Bourne Bridge traverses the canal in the town of Bourne, carrying Highway Route 28. It is located approximately two miles from the western entrance to the canal. The Sagamore Bridge, approximately 3 miles to the east, also in Bourne, and two miles from the eastern entrance to the canal, carries Route 6 from Cape Cod, connecting to Route 3 on the mainland. Figures 3 and 4 are photographs of the Bourne and Sagamore Bridges, respectively.

1.09 The geometric design of each bridge provides for a roadway width of 40 feet (four 10-foot wide lanes) flanked by a 6-foot wide sidewalk on one side and a 2-foot wide safety curb on the other. 16-inch high vertical granite curbing separates the roadways from the sidewalks and safety curbs. A 3-foot 9-inch high heavy duty combination traffic and pedestrian railing is located on the outsides of the safety curbs and sidewalks. Each bridge also carries telephone lines and a gas pipeline.

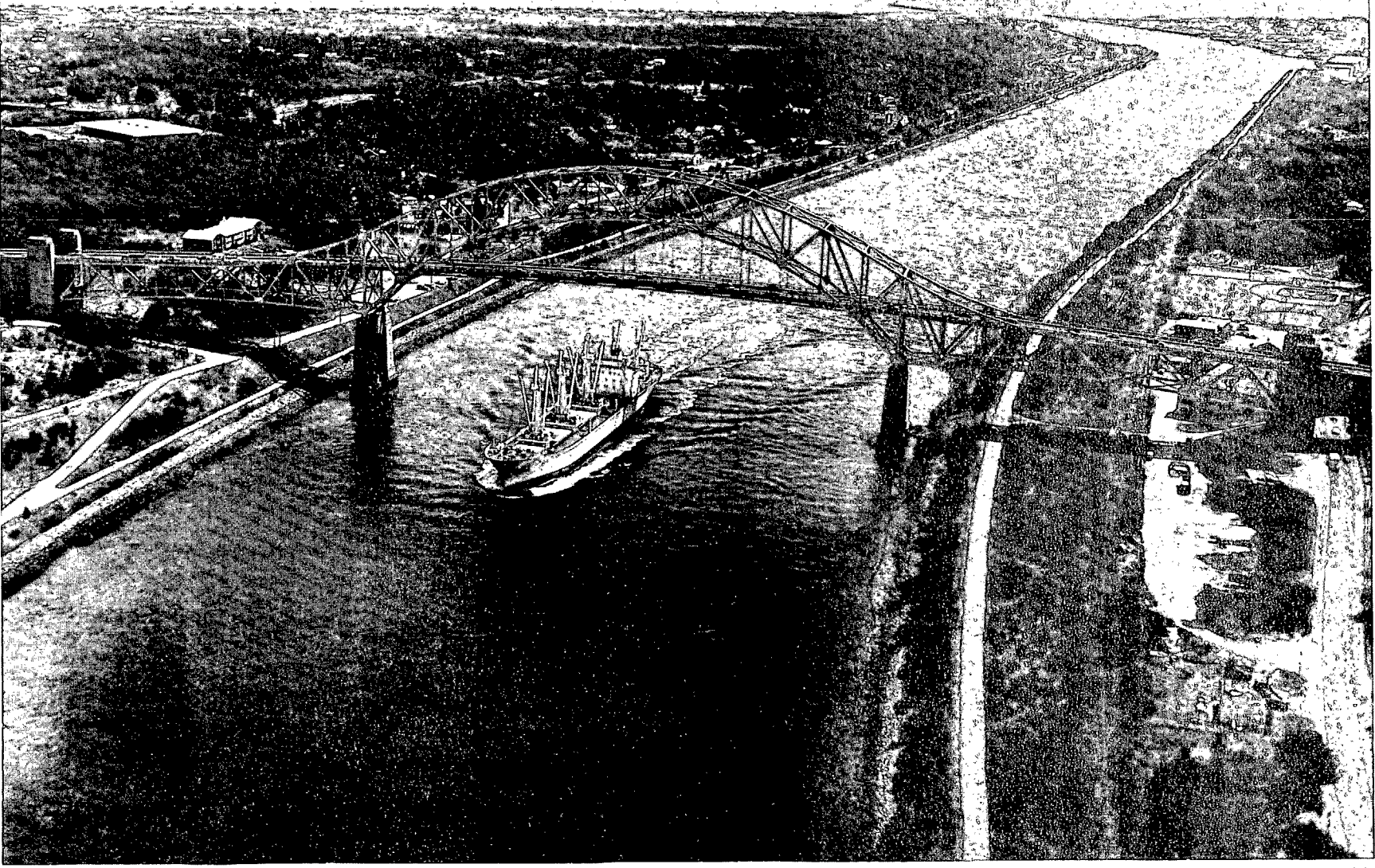
#### 1.10 Project Background.

The Bourne and Sagamore Bridges were opened to traffic in 1935, which makes them 44 years old. This is not necessarily old for a bridge. One can expect a well-maintained steel structure to have a useful life of perhaps 100 years. In that light, these bridges are just reaching middle age.



BOURNE BRIDGE

FIGURE 3



SAGAMORE BRIDGE

1.11 The key word when we speak of the useful and safe life of a bridge is maintenance. That's just what this Rehabilitation Project is, part of the on-going maintenance program that started in 1935, when the bridges were completed.

1.12 Why is this work required now? For over 40 years, the bridges have been exposed to deicing salts, the effects of which have included progressive deterioration of the concrete deck and certain steel members of the bridges. It should be noted that this is not a problem unique to the Cape Cod Canal Bridges, but rather is quite common among highway bridges in New England. It is compounded by the fact that the bridges are located near salt water. Today the Bourne and Sagamore Bridges are totally safe for public travel. The completion of this project will insure the continuation of that safety into the future.

1.13 The history of the maintenance program of the bridges dates back to when they were completed. It includes periodic painting on the average of every 5-7 years and occasional resurfacing of the roadway.

1.14 The first major repairs were performed in 1962 on the Sagamore Bridge, and included the removal and replacement of the outside 5 feet of roadway deck because of deterioration due to road salts, as well as the waterproofing and resurfacing of the entire deck. At that time, the bridge was closed for a short period in order to complete some of the work. Similar work was performed in 1963 on the Bourne Bridge.

1.15 The maintenance program has included periodic inspections by the Corps of Engineers. In 1969 and 1971, inspections were made by the firm of Fay, Spofford & Thorndike, the original designers of the bridges. Based on their reports, repairs were made on the Sagamore Bridge in 1974.

1.16 In 1975, the Corps of Engineers entered into an agreement with the New York engineering firm of Ammann and Whitney for an in-depth inspection, evaluation and condition report on the bridges. From August 1975 through June 1976 three teams of bridge inspectors covered literally every inch of the bridges, taking photographs and making field sketches and notes. In addition to the field investigation, they also performed a computer evaluation of the existing bridge structures using current design criteria. When their work was completed, the Corps of Engineers received an 11 volume report on the two bridges itemizing individual repair items from as small as a single rivet to as large as the entire bridge decks.

1.17 Based on this report, the New England Division, Corps of Engineers prepared and submitted separate Reconnaissance Reports to the Office of the Chief of Engineers, on 3 August 1977 for the Sagamore Bridge and on 31 August 1977 for the Bourne Bridge.

#### 1.18 Project Description.

The major item of work will be replacement of the concrete decks which form the roadways for the bridges. Other work will consist of repairs to structural steel and repainting of both of the superstructures. Also, 8-foot high suicide-detering barriers will be erected atop the railings on the bridges to discourage suicide attempts. During good weather periods, the work will be accomplished in multiple daily shifts.

1.19 The total estimated construction cost of the project is \$12,600,000. It is anticipated that a construction contract would be awarded during June 1979.

1.20 Work is scheduled to begin on the Bourne Bridge shortly after award of the construction contract; however no activities that would interfere with the flow of traffic would be permitted until after Labor Day. After Labor Day, one of the four traffic lanes would remain open on the Bourne Bridge for general traffic and all four lanes of the Sagamore Bridge would be completely open. The one open lane of the Bourne Bridge would be reversed on weekdays to handle the morning and afternoon directional peaks in traffic flows, with a similar plan to be implemented on weekends. Arrangements would be made to clear the bridge of traffic to allow passage of emergency and other authorized vehicles. Trucks in excess of one-ton capacity would be excluded from the single open lane at all times and detoured to the fully open Sagamore Bridge. Pedestrians and bicycles would also be excluded from the bridge while it is under construction. It is expected that it would take approximately two years to complete work at the Bourne Bridge with three of the four lanes being closed during the fall, winter and spring of 1979-80 and the fall, winter and spring of 1980-81. The bridge would be fully opened to all users during the period from just before the Memorial Day Weekend to just after Labor Day of each construction year. With completion of work at the Bourne Bridge in the spring of 1981, work would start at the Sagamore Bridge in the fall of that year and be completed in the spring of 1983. Traffic patterns similar to those outlined for the Bourne Bridge are planned for the Sagamore Bridge repair period.

## 2.00 ENVIRONMENTAL SETTING WITHOUT THE PROJECT

Since the prime concern relating to this project is one of socioeconomic effects, specifically those resulting from altered traffic patterns during construction, this Supplemental Environmental Impact Statement will concern itself primarily with socioeconomic matters, particularly of a transportation-related nature. The reader is referred to the April 1977 Final Environmental Statement for the Cape Cod Canal for background material concerning topography and geology of the area, hydrography, climate, water and air quality and aquatic flora and fauna. The two sections to follow provide a background for later discussions of the socioeconomic impacts resulting from the bridge rehabilitation work and of the measures planned for the mitigation of these effects.

### 2.01 Socioeconomic Profile.

2.02 Population. The population of Bourne has grown at a rapid rate far in excess of the populations of Massachusetts, New England, or the United States. Between 1950 and 1970, the town increased in population from 4,720 to 12,636 or 168% in 20 years. The rapid growth trend witnessed in Bourne is also evident in Barnstable County, which encompasses all of Cape Cod, and includes the portions of Bourne and Sandwich on the mainland. Between 1950 and 1970, the population of Barnstable County increased by 107%, from 46,805 to 96,656. During the same 20 year period, the Massachusetts population increased by only 21%.

2.03 Population projections for both Bourne and Barnstable County estimated by the Cape Cod Planning and Economic Development Commission indicate that further increases can be expected throughout the remainder of this century with the rate of increase peaking around 1985, then falling off significantly.

2.04 In addition to the resident population, significant seasonal increases occur consistent with the popularity of the region as a summer resort area. Population in Bourne and Barnstable County begins to grow gradually in April, peaks in July and August, and declines to its year-round level in early November. In 1976 the peak seasonal population in Bourne increased to 2.9 times the year-round population. The average growth multiple for Barnstable County overall was 3.0.

2.05 Another characteristic of the population of Bourne and Barnstable County is the increasing percentage of residents 65 years of age and over. Between 1960 and 1970, Bourne's 65 and over population grew from 782 to 1,142, an increase of 46.0%. This compares to a 5.6% increase statewide for the same age category. For Barnstable County as a whole, the 1960 to 1970 increase was 82.5% with the 16,348 County residents in this age bracket in 1970 accounting for 16.9% of the total population, compared to 11.1% statewide.

2.06 Economic Structure. The economies of the town of Bourne and Barnstable County share a common characteristic: they are both primarily tourist-dependent with a seasonal peak in activity during July and August. Those employment sectors most directly related to tourism - wholesale and retail trade (including food and clothing stores, department, chain and discount stores, novelty shops, antique shops, gift shops, gas stations, and sales outlets for recreational equipment) and services (including motels, hotels, restaurants, health care institutions, recreational and entertainment facilities, fire and police departments, and all trades) - are the largest and second largest employers in both the town and the County.

2.07 Between 1970 and 1976, total annual average employment in Bourne rose from 1,511 to 2,217, an increase of 47%. Contributing to that total increase was a combined growth in the wholesale and retail trade sector and the service sector of 45%. Over the same time period, total annual average employment in Barnstable County increased by 48%, due largely to a combined growth in wholesale and retail trade and the service sector of 64%.

2.08 The dependence of Cape Cod's economy on these tourism-related employment sectors is further illustrated by the fact that they combine to provide 61% of all employment offerings in the town of Bourne and 72% in Barnstable County. These figures compare to a corresponding share of employment for the State of Massachusetts of only 45%.

2.09 Seasonal differences in employment levels are dramatic. In 1976 the seasonal lowpoint for employment in Bourne was in January, and the highpoint in August, with an increase of 43%; wholesale and retail trade experienced an increase of 63% from January to August; in the service sector, employment grew 44% from a February lull to a July peak.

2.10 Seasonal fluctuations are even more dramatic when witnessed at the County level, with a 62% growth in total employment from the February low to the July peak in 1976. Employment in wholesale and retail trade reached a lowpoint in February and increased by 82% at the August peak. In the service sector, a 72% increase occurred between the January low and the August high.

2.11 Unemployment is a major problem facing the local labor forces in both Bourne and Barnstable County. In 1978, an average of 8.8% of the 6,495 workers that comprise the town's labor force was unemployed, as was 9.2% of the total County labor force of 61,808. This was in comparison to the statewide 1978 unemployment rate of 6.0%. The seasonally fluctuating local and regional economies intensify the problem causing unemployment to soar during the off-season for tourism. The seasonal highpoint for unemployment in 1978 occurred in January for both



the town and the County, at a rate of 14.7% in Bourne and 15.3% in Barnstable County, compared to a substantially lower statewide high of only 7.5%, also recorded in January.

2.12 Transportation. All automobile, truck and bus traffic to and from Cape Cod, as well as Martha's Vineyard and Nantucket, must pass over either the Bourne or the Sagamore Bridge. The Bourne Bridge carries Route 28 onto the mainland, where Routes 28 and 6 lead traffic into the rest of southeastern Massachusetts. Route 28 through Buzzards Bay is a particularly severe bottleneck during heavy traffic periods. An extension of Route 25 to the Bourne Bridge is planned by the State, to eliminate this problem. Construction is expected to begin in 1979. The Sagamore Bridge connects Route 6, which extends from the canal area to Provincetown, with Route 3, linking Barnstable County with Metropolitan Boston and several South Shore communities. Separate arms of Route 6 link the two bridges on the northern and southern sides of the canal.

2.13 The bridges carry nearly all deliveries of food and other products and materials to Cape Cod and the Islands, from the mainland. They serve as vital arteries for police, fire and other emergency vehicles, particularly for the towns of Bourne and Sandwich, both of which are physically divided by the canal. And they serve to channel traffic to and from the Cape and the Islands, including everyday local traffic travelling short distances, commuter traffic travelling to places of employment on either side of the canal (and at distances as far away as Boston) as well as the massive amounts associated with this area's summer tourist and summer resident seasons.

2.14 Free-flow of traffic is of particular importance to emergency vehicles and to year-round residents of the area. Sandwich's police and fire vehicles must cross the Sagamore Bridge from the Cape side to reach the portion of town north of the canal. Bourne's emergency vehicles utilize the bridges extensively. The primary facilities are located north of the canal. State Police barracks are located just south of the Bourne Bridge, from where they serve the nearby parts of both the Cape and the mainland. Depending on the exact location and nature of a medical emergency ambulances may need to cross one or the other of the bridges either enroute to the emergency or to one of the hospitals on the Cape or the mainland.

2.15 Use of the bridges by local residents is significant. Since 7,037 or 62% of all Bourne residents live on the southern side of the canal, and most of the shopping centers, indoor recreational facilities, places of worship, health care facilities and the Town Hall are located on the northern side, many of the residents must cross one of the bridges frequently. Portions of the population on the mainland side regularly cross over to reach schools and the outdoor recreational facilities concentrated on the south side of the canal. In addition



Bourne's sanitary landfill is to the south of the Bourne Bridge, serving areas on both sides. The Bourne Department of Public Works is also located to the south of the canal.

2.16 As a link for commuter traffic, the bridges serve several thousand vehicles each day.

2.17 At the present time, a commuter parking lot with spaces for 215 vehicles is located on the mainland side of the Sagamore Bridge at the junction of Routes 6 and 3. Filled to capacity almost daily, this parking area is served by buses travelling to and from Boston. This arrangement does little, however, to alleviate traffic congestion at the bridge because Cape Cod residents must still cross over to reach the park-and-ride facilities.

2.18 A similar commuter parking area is located at the junction of Routes 6 and 132 in Barnstable, to serve the needs of outer-Cape residents. Its 210 spaces are filled almost daily, and local transportation planners believe that the actual demand greatly exceeds the available spaces.

2.19 Rail travel to and from Barnstable County is currently not very extensive and is limited to freight service. The existing facilities, including the single track crossing of the canal, are adequate to transport a much larger volume of cargo than is presently being carried.

2.20 Plans for initiation of passenger service between New York and Cape Cod by as early as 1979 are being implemented by Amtrak. The project includes the renovation of 35 miles of old track extending through Sandwich, Falmouth and Hyannis. Further proposed railbed restorations may make service between Boston and Cape Cod possible by as early as the early 1980's. Passenger service to and from the Cape may have profound implications for the future alleviation of the enormous peak season traffic pressures upon the highways in the area and the bridges over the canal.

#### 2.21 Traffic Pressures at the Bridges.

During the tourist industry's off-season, September through May, the highway system, including the bridges, is considered adequate to meet the transportation needs of the year-round population. During the summer vacation months, however, traffic congestion in the vicinity of the two bridges becomes a serious transportation problem, particularly at peak daily hours and on weekends.

2.22 Traffic surveys conducted by the Massachusetts Department of Public Works (DPW) in 1977 confirm that the peak months for both bridges are July and August. The DPW has estimated an approximate peak hour directional split of the traffic crossing the bridges as 70% - 30%. At the recorded seasonal peak in 1977, on July 16, 35,170 vehicles passed over the Bourne Bridge and 62,230 over the Sagamore, for a combined total of 97,400 vehicles. The heaviest hour during this day was from 10 a.m. to 11 a.m., when 2,490 vehicles passed over the Bourne Bridge and 5,030 crossed the Sagamore. Applying the 70% - 30% split, this means 1,743 vehicles crossed the Bourne and 3,521 crossed the Sagamore in the direction of greatest traffic pressure, obviously toward the Cape on this particular Saturday morning. The DPW-estimated capacity of two lanes over either bridge is 2,500 vehicles per hour. Thus, during this peak hour, traffic on the Bourne was within capacity. Traffic on the Sagamore exceeded capacity by 1,021, thus resulting in a major bottleneck. Of this excess, 757 vehicles could have been absorbed by the Bourne Bridge as an alternate route, however this still would have left 264 vehicles in excess of the two bridges' combined capacity. With similar peaks recorded through the rest of July and August, it is apparent that these are not the months for bridge construction and associated lane closings.

2.23 On the other hand, the heaviest recorded traffic flow during the after-Labor Day through pre-Memorial Day off-season in 1977 occurred on May 22, a Sunday, with 28,770 vehicles crossing the Bourne Bridge and 45,320 passing over the Sagamore, for a combined total of 74,090 vehicles. During the peak hour from 3 p.m. to 4 p.m., 2,590 vehicles crossed over the Bourne Bridge and 3,470 over the Sagamore. Applying the 70% - 30% directional split, this calculates to 1,813 over the Bourne and 2,429 over the Sagamore travelling toward the mainland during this afternoon peak hour. Thus, neither bridge reached capacity flow during this heaviest recorded traffic hour of the off-season.

2.24 During most of the off-season period the bridges function at a level well below their capacities, even during the commuter rush hours.

#### 2.25 Threatened and Endangered Species.

There is no evidence that any threatened or endangered plants or animals, either terrestrial or aquatic, inhabit the project area or will be affected in any way by the project activities.

#### 2.26 Historical-Archaeological Features.

A review of potential impacts on cultural resources, mandated by the National Historic Preservation Act of 1966 (P.L. 89-665) and Executive Order 11593, has been undertaken. As the proposed repairs will result in negligible change to the appearance of the bridge

superstructures and will not involve ground disturbance, impacts to significant cultural resources are unlikely. Coordination with the Massachusetts Historical Commission has resulted in a determination of "no effect" upon significant cultural resources as a result of project implementation. The pertinent correspondence may be found in Appendix A to this Supplemental Impact Statement.

### 3.00 RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS

The proposed project does not conflict with existing or proposed Federal, State or local land use plans. Project implementation will insure the continued use of the bridges for their intended purpose of transporting traffic across the Cape Cod Canal to and from points on Cape Cod and the mainland.

#### 4.00 PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

The proposed action will ensure the continued safe use of the bridges into the future and eliminate the adverse impacts associated with frequent repair work. The suicide-detering fencing to be erected atop the bridge railings (see Sections 1.18 and 4.19) should help reduce the incidence of suicides from the bridges. The primary adverse impacts concern the effects on traffic flow when either bridge is being rehabilitated. Traffic of various types will be affected, including routine local commercial and noncommercial vehicles, emergency vehicles as well as general traffic of all kinds, especially that relating to seasonal use of the Cape and the Islands. Some economic effects may be expected as a result of the traffic impacts. Other, minor impacts will be related to the construction work itself.

##### 4.01 Impacts on Traffic.

In early discussions with local officials and with the Massachusetts Department of Public Works it became obvious that we could not completely close a bridge to work on it. Since three lanes must be shut down on a bridge under construction for the work to proceed efficiently, it was also clear that work could not proceed on both bridges at the same time. We therefore decided to rehabilitate the two bridges separately, in time, and were then left to consider the most efficient use of one fully open bridge plus a single open lane on the bridge under construction.

4.02 We have decided to retain the 2-lane-in-each-direction traffic pattern on the open bridge, primarily because interference with the normal traffic pattern on the already-narrow lanes would likely promote more harm than good.

4.03 We considered reserving the single open lane on the bridge under construction for emergency and other authorized vehicles only; however, this appeared to be unnecessarily restrictive. We have decided, instead, to keep the one open lane available to routine traffic, in the direction of greatest traffic pressure, on a schedule to be determined in advance. This lane would be under police control to allow emergency and other authorized vehicles necessary access to the lane, in either direction.

4.04 Traffic approaching the bridge in the direction opposite to the one open lane would be rerouted to the other bridge. Traffic heading in the same direction as the one open lane would be advised of the potential advantage of using the other bridge as an alternate. This should cause redistribution of a large enough portion of the traffic during heavy flow periods to alleviate pressure on this lane. In

addition, trucks in excess of one-ton capacity would be excluded from the single open lane at all times and detoured to the fully open bridge.

4.05 It should be re-emphasized that both bridges will be fully open from just before the Memorial Day Weekend to just after Labor Day of each construction year, the time of greatest traffic demand upon the bridges. No activities that would interfere with the full flow of traffic at the normal capacity of the bridges would be permitted during this more than three-month interval.

4.06 During the peak hours of the part of the construction season shortly before and after the Memorial Day to Labor Day period, traffic demand on the bridges may still be heavy enough so that backups may occur in the heavier-trafficked direction.

4.07 Throughout most of the construction season, however, this will not be the case, and the three traffic lanes in the direction of greatest demand (two on the fully open bridge plus one on the bridge under construction) will be more than adequate.

4.08 Effects of Impacts on Traffic. The provision of three lanes of traffic flow in the direction of heaviest traffic during the September-May construction period should be adequate to satisfy the traffic demands normally experienced, with the exception of possible congestion problems during peak hours in September and May. Heavy traffic during these two months would probably result in the inconvenience of increased travel time, but the duration of the traffic problem would not be long enough to cause any sustained economic harm. Traffic conditions during peak hours in May and September would probably be similar to those normally experienced during peak hours of July and August with both bridges completely functional.

4.09 The effects of the single directional lane on those desiring to travel in the opposite direction will be primarily inconvenience and some economic hardship, of greatest magnitude to those needing to do so frequently or regularly. The detour using the other bridge amounts to approximately 7 miles. Certain regular users, such as school buses, will be authorized as vehicles eligible for temporary stopping of traffic, and lane reversal. 24-hour radio-equipped police control of the single lane will avoid potential problems associated with access and use by emergency and other authorized vehicles.

4.10 Coordination with Construction of Route 25. Construction on the planned extension of Route 25 from Wareham to the Bourne Bridge is of concern to the Bridges Rehabilitation Project insofar as it relates to the planned new tie-in for Route 25 as well as Routes 6 and 28 at the northern terminus of the Bourne Bridge. The Corps of Engineers and the Massachusetts Department of Public Works have been in close contact

concerning appropriate coordination of the schedules for these two projects. Ideally, the tie-in construction at the Bourne Bridge would take place concurrently with the rehabilitation of the bridge itself. This would yield a twofold advantage. First, it would concentrate all construction work at that location into the same time frame, rather than subjecting the area to an extended period of construction activity. Second, it would permit full use of the rehabilitated Bourne Bridge and the completed tie-in, during the rehabilitation of the Sagamore Bridge.

4.11 Construction on the Route 25 project is expected to commence in 1979. The new tie-in at the Bourne Bridge is planned for completion by the fall of 1981, in time for its use when rehabilitation work begins at the Sagamore Bridge in September of that year.

4.12 Pedestrian and Bicycle Access to the Bridges. Pedestrians and bicycles, normally users of the bridges' sidewalks (one sidewalk is available on each bridge), will not be allowed on a bridge under repair for safety reasons. No modifications to the bridges or the approaches to the bridges are anticipated which will in any way affect pedestrian or bicycle access and use after rehabilitation. The Department of Public Works has indicated that it will make provisions to bring bicycles up to the Bourne Bridge as part of the Route 25 tie-in construction.

4.13 Increased bicycle use may be anticipated with the inclusion of the Sagamore Bridge as part of the Boston to Cape Cod Bikeway. Consideration was given to performing modifications to include bicycle lanes on the outsides of the bridges, however this was determined to be structurally infeasible. Widening of the sidewalks was also considered, but rejected because such action would reduce the already substandard 10-foot wide traffic lanes. The Corps will continue to explore possible measures for enhancement of the safety and enjoyment of the bridges and their accesses for cyclists in coordination with local and regional cycling interests.

#### 4.14 Falling Materials.

Pieces of decking will be prevented from falling from the bridges by the installation of boarding below the bridges during the removal process. All efforts will be made to see that no other construction materials fall from the bridges.

4.15 Some impact may be expected as a result of the removal of about ten percent of the old paint systems and the entire repainting of the bridge superstructures. Much of the old paint, sand used in sandblasting and small amounts of the new paint will fall from the bridges into the canal and onto immediately adjacent land areas. Although shrouding could be set up to collect these materials, the shrouding would cause an unacceptable hazard to the workers. Wind stress would provide the greatest danger.

4.16 Because of the expected falling of paint material and sand and the likelihood that despite all precautions on the bridges, some construction material will fall to the ground/canal level, it is planned to close the appropriate portions of the Bourne Scenic Park, as well as Corps recreational facilities beneath the two bridges at such times as any work is proceeding on the bridges above or nearby to them. Vessel traffic entering the canal will be warned of the construction activity ahead. Streets and highways passing under the bridges will be appropriately posted.

4.17 It is possible that aesthetically unpleasing amounts of old and new paint and sand may accumulate on land areas beneath the bridges. In the canal the paint material and sand should be dispersed by the tides. Amounts of falling paint and sand should be small enough to cause no significant effect on the local ecology, either terrestrial or aquatic.

#### 4.18 Other Impacts.

Additional impacts comprise noise pollution due to the construction work itself plus some addition to the local traffic load resulting from the transport of materials and workers to and from the construction sites.

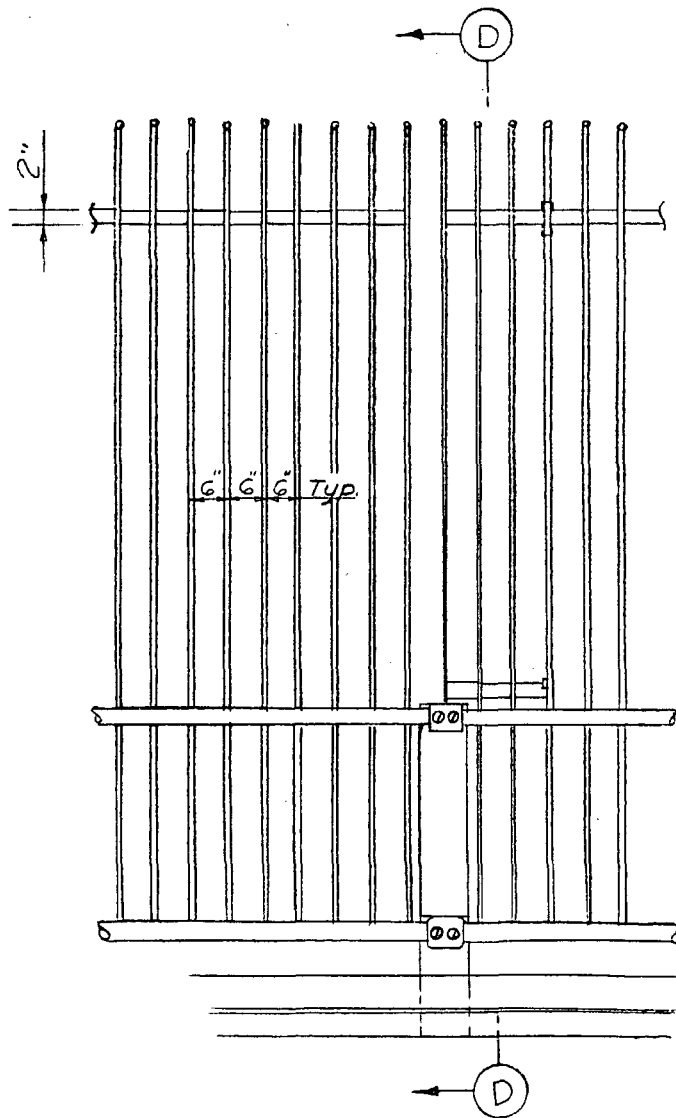
#### 4.19 Suicide-detering Fences.

The existing railings at the sides of the bridges are less than 4 feet high and do not discourage suicide attempts. According to Ms. Monica Stratton of the Samaritans, a suicide prevention service on the Cape, the bridges are a definite target for potential suicides. In 1977, nine persons took their lives at the bridges and an equal number of attempts were averted.

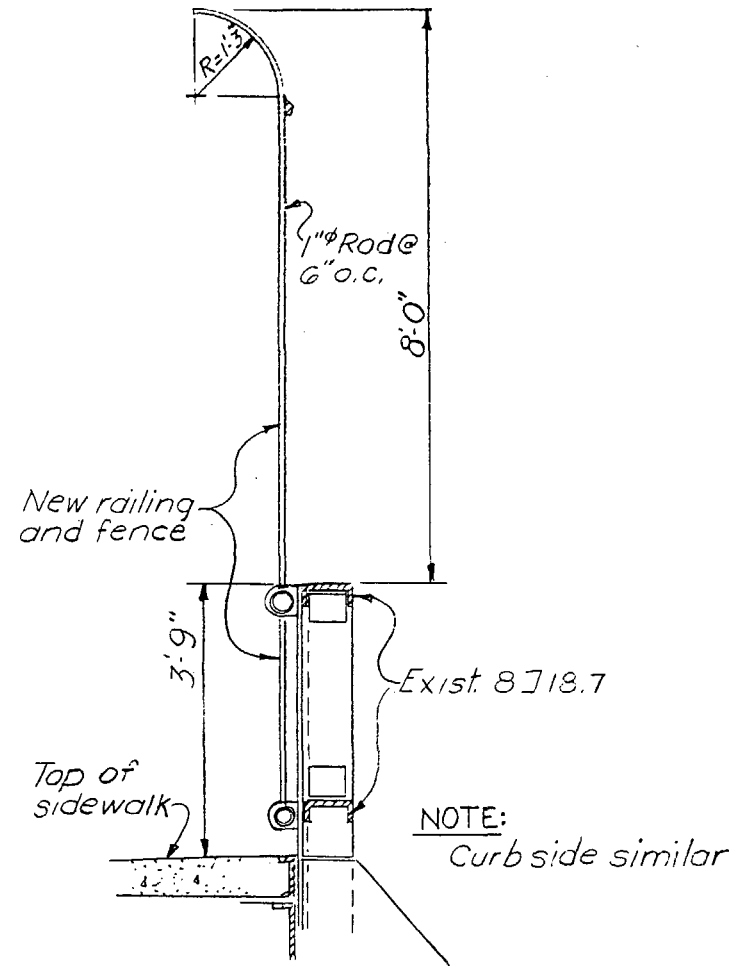
4.20 As part of this project, the Corps plans to install 8-foot high barriers atop the railings on both sides of each bridge to deter suicide attempts. These barriers will be curved inward at the top, with 6 inches of space between vertical members (see Figure 5).



FIGURE 5



ELEVATION



SECTION D - D

PROPOSED SUICIDE-DETERRING FENCE

SCALE 1/2"=1'-0"

5.00 PROBABLE ADVERSE ENVIRONMENTAL IMPACTS  
WHICH CANNOT BE AVOIDED

The prime adverse environmental effect is upon traffic flows at the bridges.

5.01 Some economic hardship may be borne by frequent or regular users of the bridges as a result of the traffic impacts.

5.02 Paint and sand falling from the bridges will cause local nuisance effects to land areas beneath them and to vessel traffic in the canal.

5.03 Noise pollution due to the construction work itself, plus some addition to the local traffic load as a result of the transport of materials and workers to and from the construction sites may also be anticipated.

## 6.00 ALTERNATIVES TO THE PROPOSED ACTION

### 6.01 No Action.

The no-action alternative would avoid the impacts listed in the earlier sections and would save the immediate expenditure of \$12,600,000 required for bridge rehabilitation.

6.02 Eventually, the bridges would deteriorate in condition to the point where they would be unrepairable. Rehabilitation is imperative so that the bridges will remain a useful part of the existing canal project and continue to maintain a means of vehicular access to and from Cape Cod and the Islands.

### 6.03 Implementation Alternatives.

During the planning for this project options were evaluated concerning the exact extent of the rehabilitations, selection of materials, establishment of time schedules and mitigation of traffic problems.

6.04 Degree of deterioration and anticipated further useful life of existing bridge components determined the extent of the rehabilitations required. Engineering judgments determined the selection of the materials to be used.

6.05 Alternatives were considered concerning how much, if any, of the peak traffic season should be excluded from the traffic-restricting construction schedule. Severe travel disruptions and profound economic and social impacts would result during the months most important to the area economy if construction were to be allowed to continue through the summer. July and August constitute the peak of this period. June is rapidly increasing in importance. Thus the just after Labor Day through just before Memorial Day Weekend construction season was selected.

6.06 Several alternatives were also considered during development of the traffic mitigation plans, other than the obvious and already-discussed alternative uses of the available capacity of the bridges themselves. The possible alteration of the railroad bridge to handle vehicular traffic was investigated. However, substantial modification would be needed to provide a roadbed for traffic adding appreciable weight which the existing machinery and supports are not designed to accommodate. In terms of use-feasibility, when it would be in position for traffic use, this lift bridge would exclude normal use by vessels in the canal, severely disrupting the canal operation. Establishment and use of a floating bridge or bridges in the canal was also considered,

however the swift tidal flow through the canal would render such structures unstable in position. Furthermore, no movement of vessel traffic in the canal would be possible with any such bridge in place.

7.00 RELATIONSHIP BETWEEN LOCAL SHORT-TERM  
USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE  
AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Rehabilitation of the canal bridges is vital in terms of their continued safe use into the future.

7.01 This project will serve to enhance the long-term productivity of the area, by ensuring the continued ability of the bridges to perform their function an estimated 40 more years with normal maintenance.

7.02 The short-term adverse effects described in this Supplemental Impact Statement are necessary to the work that will allow the long-term benefits to be realized.

8.00 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF  
RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED  
PROJECT SHOULD IT BE IMPLEMENTED

The labor, fuel and financial resources which would be expended if the proposed project were implemented are irretrievable.

## 9.00 COORDINATION

Throughout the progress of this study, coordination and liaison have been maintained between the Corps and interested local, regional, State and Federal agencies and the public.

9.01 Right from the beginning, we have been in close contact with representatives of the Massachusetts Department of Public Works - from a traffic control standpoint, as well as to coordinate the projected bridge rehabilitations with the anticipated construction of the tie-in of Route 25 at the Bourne Bridge.

9.02 In the spring of 1978 initial meetings were held with the Selectmen and Police and Fire Chiefs from the towns of Bourne and Sandwich and with the Executive Director of the Cape Cod Planning and Economic Development Commission.

9.03 As a result of the early contacts and meetings, a number of our original ideas concerning mitigation of the expected effects, especially with regard to traffic, were revised.

9.04 On July 26, 1978, a widely publicized Public Information Workshop was held at the Bourne Memorial Community Building to further foster public communication and involvement.

9.05 This Final Supplemental Environmental Impact Statement is yet another step in the public involvement process. The Draft was available for review and comment by local, regional, State and Federal agencies and other interests for a period of 45 days after its date of issue, as announced in the Federal Register. The review period ended on April 30, 1979.

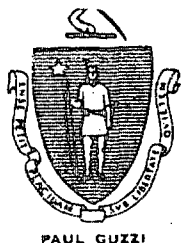
9.06 The comments received and our responses to them may be found in Appendix B of this Final Supplemental Statement.

9.07 This summer, another Public Information Workshop will be held, to answer specific questions concerning the upcoming work.

9.08 During the summer and beyond, the Corps will continue to coordinate closely with all interests to implement the plans that have been developed to minimize the adverse effects of this project. The plans, and any changes, as needed will be widely advertised and reported through the media.

APPENDIX A  
CORRESPONDENCE  
RECEIVED PRIOR TO ISSUANCE  
OF THE  
DRAFT SUPPLEMENTAL EIS





*The Commonwealth of Massachusetts*

*Office of the Secretary*

*Massachusetts Historical Commission*

*Secretary of the  
Commonwealth*

*294 Washington Street Boston, Massachusetts 02108  
(617) 727-8470*

April 26, 1978

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
U. S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Re: Cape Cod Canal Bridges

Dear Chief Ignazio:

The Massachusetts Historical Commission (MHC) has reviewed the proposed rehabilitation project to the Cape Cod Canal Bridges. MHC feels that the project will have no effect on significant cultural resources.

If MHC can be of further assistance, please contact Valerie Talmage, Staff Archaeologist.

Sincerely,

*Patricia L. Weslowski*

Patricia L. Weslowski  
Acting Executive Director  
Massachusetts Historical Commission  
State Historic Preservation Officer

PLW/VAT/pg

MASSACHUSETTS HISTORICAL COMMISSION

RESPONSE

No response required.

# TOWN OF SANDWICH

THE OLDEST TOWN ON CAPE COD



SANDWICH, MASSACHUSETTS

TELEPHONE 888-0157

OFFICE OF THE:

BOARD OF SELECTMEN

BOARD OF ASSESSORS

June 15, 1978

Colonel John Chandler, Division Engineer  
New England Division  
U.S. Army Corps. of Engineers  
424 Trapelo Road  
Waltham, MA 02154

Dear Sir,

This letter is in reference to a meeting held between Mr. Robert Harrington, Mr. Joseph Horowitz and the Town of Sandwich concerning the Cape Cod bridge rehabilitation project.

We thank you very much for the efforts of your office in bringing the plan to us before public notice has been given. It is nice to know what the problem is before the questions are asked.

The following are our areas of concern:

1. Movement of Emergency Vehicles. The single lane operation should handle emergencies if the Bourne police, who we assume will be on duty, are equipped with portable radios. The frequency used by both departments is shared. The greatest problem we anticipate is when the emergency vehicles are going with the flow of traffic. For this problem we request that an emergency only lane be established so that these vehicles can bypass the anticipated back up.
2. Movement of School Buses. The Town of Sandwich has their schools only on the south side of the Cape Cod Canal. Unfortunately, we have children on the north side. At the present time we have a Jr.-Sr. High School bus twice a day, an elementary school bus twice a day, and a kindergarten car once a day. The system of allowable travel, i.e., one-way traffic, will result in the buses being forced to take the long way around when they have the students on board. We request that these vehicles be granted permission, at least on a trial basis, to go against traffic. Inability to do so will have adverse affects on our school and our students.
3. Commuter Traffic. Although this problem is composed of two parts, automobiles and buses, we feel that the best solution might solve both. First of all, it is very necessary that buses be allowed to use the single lane but only in the allowable direction. The bus terminal provided by Mass. DPW at the Sagamore rotary has become a very important commuter

TOWN OF SANDWICH, BOARD OF SELECTMEN

RESPONSE

1. It would be impossible to set aside an additional lane for emergency use only, since this would enormously restrict construction activities and significantly increase the time required for completion of the work. Emergency vehicles will, of course, always have top priority, in both directions, on the single open lane. Police controlling the lane should be able to expedite emergency vehicle passage in either direction.
2. We share your concern regarding school buses. As indicated in Paragraph 4.09 of the Final Supplemental EIS (FSEIS), these vehicles will be authorized as eligible for temporary stopping of traffic, and lane reversal.
3. We concur. Passenger buses will be permitted to use the single lane, but only in the allowable direction. If the town of Sandwich desires to establish a temporary parking lot and bus stop on the south side of the Canal, the Corps will be glad to cooperate with it.

3. center. This area should remain to service those persons who live on the north side of Cape Cod. We recommend that, if it is at all possible, a temporary parking lot and bus stop be established on the south side of the canal. This proposal will reduce greatly the volume of traffic crossing the bridges. We cannot recommend a location for this facility, but we would be glad to help if this course of action is adopted.

Thank you for your consideration in these matters.

Very truly yours,

BOARD OF SELECTMEN

  
H. Eugene Carr

HEC/jb

**APPENDIX B**

**COMMENTS AND RESPONSES**

**ON THE**

**DRAFT SUPPLEMENTAL EIS**



# AMERICAN AUTOMOBILE ASSOCIATION

8111 GATEHOUSE ROAD, FALLS CHURCH, VIRGINIA 22042 • 703 AAA-6000 • CABLE AMERAUTO • TELEX 89 9485  
(703) AAA-6141

March 9, 1979

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
New England Division, Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Re: NEDPL-R

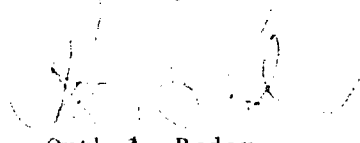
Dear Mr. Ignazio:

Thank you for thinking of Triple A National Headquarters when you addressed your March 5th letter to Mr. Walter Hoerl.

From the National Travel viewpoint and responsibility, we do not wish to make comments on the environmental impact of the rebuilding of the Bourne and Sagamore Highway Bridges in the Cape Cod Canal area of Massachusetts. This is a matter best left to the Public Affairs Office of the local club which would be the Massachusetts Division, Triple A.

Therefore, we are forwarding the material to this Division for their information and any action that they may wish to take in providing an impact statement.

Sincerely,

  
Orth A. Rader  
Director of Publications  
National Travel Department

OAR:dem

CC: Mr. Walter Hoerl, Managing Director, NTD-AAA

Mr. John J. Quigley, Gen. Mgr.  
Massachusetts Division, AAA  
1280 Boylston St. (Route 9)  
Chestnut Hill, Massachusetts 02167

AMERICAN AUTOMOBILE ASSOCIATION

No response required.



SUICIDE . . . . DESPAIR . . . . LONELINESS

FOR SOMEONE TO TALK TO

IN CONFIDENCE

**THE SAMARITANS**

CALL DAY OR NIGHT

**(617) 548-8900**

P.O. BOX 65

FALMOUTH, MASS. 02540

March 13, 1979

Joseph L Ignazio  
Dept of The Army  
N.E. Div Corps of Engineers  
424 Trapelo Rd  
Waltham, MA 02154

Dear Mr Ignazio,

Thank you for sending me the Draft Supplemental Environmental Impact Statement about the rehabilitation of the Cape Cod Canal bridges.

As a suicide prevention service for this area, The Samaritans is very glad that the new barriers, described on P 4-4 are proposed to be erected at the time of the rehabilitation work.

We believe this will make a definite and beneficial impact on the number of suicides and suicide attempts from the bridges. We thank you for listening to our request for such a barrier, and for acting on it so practically.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "Monica Dickens Stratton", written over a horizontal line.

Monica Dickens Stratton  
Director

THE SAMARITANS

No response required.



*The Commonwealth of Massachusetts*  
*Metropolitan District Commission*  
*20. Somerset Street, Boston 02108*

March 15, 1979

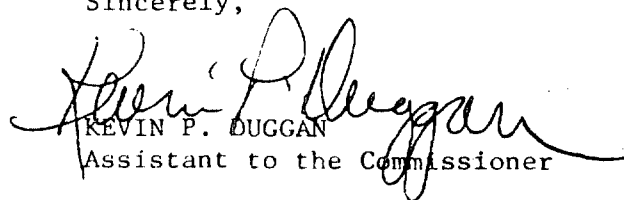
Mr. Joseph L. Ignazio  
Chief Planning Division  
Department of the Navy  
New England Division, Corps of Engineers  
424 Tropelo Road  
Waltham, Ma. 02154

Dear Mr. Ignazio:

Commissioner Hicks has asked me to thank you for your information which you sent on the Environmental Impact Study for the major rehabilitation of the Bourne and Sagamore Highway Bridges. This project does not effect the Metropolitan District Commission directly thus we have no comment on the proposal.

Again - we appreciate the opportunity to comment on the Corps' projects.

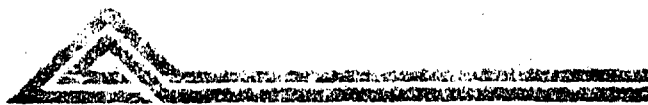
Sincerely,

  
KEVIN P. DUGGAN  
Assistant to the Commissioner

KPD/jaj

METROPOLITAN DISTRICT COMMISSION

No response required.



# Plymouth & Brockton STREET RAILWAY CO.

8 Industrial Park Road, Plymouth, Mass. 02360  
(617) 746-0378 · (617) 773-9400

15 March 1979

Department of the Army  
New England Division,  
Corps of Engineers,  
424 Trapelo Road  
Waltham, Mass., 02154  
Mr. Joseph L. Ignazio,  
Chief Planning Division

Ref: E.I.S. - Cape Cod Supl. #1

Mr. Ignazio:

"The Draft Supplemental Environmental Impact Statement" you forwarded to us here at Plymouth and Brockton Street Railway Company, was of great enlightenment, and we appreciate the opportunity to respond with our comments.

Granted the major portion of the "Rehabilitation of the Bourne and Sagamore Bridges" that would impede traffic, will be completed in the "off season" our services at this time would be utilized by commuters who depend on our service daily. The commuters who utilize our buses as a means of transportation, are alleviating a majority of the potential traffic problems that could occur in this limited traffic period.

1. Our operation here at Plymouth & Brockton, entails numerous trips within the course of each day, to and from the Hyannis area. One way traffic across the bridge would result in our buses being forced to route the long way around, and would also create adverse affects on our Company as well as our passengers.

PLYMOUTH AND BROCKTON STREET RAILWAY

1. Passenger buses will not be excluded from the single open lane, in the direction in which it is open. Since the lane will be open in a northerly direction during the morning commuter rush hours and in a southerly direction during the afternoon rush hours, many of your buses and commuting passengers will not be adversely affected. Passenger buses needing to travel in the direction opposite to the open-lane direction will have to detour to the fully-open bridge, as will all other traffic.

2. Only one lane will be available on the bridge under construction. Use by regular traffic, with reversal for emergency and other authorized vehicles, as described in Paragraph 4.03 of the FSEIS minimizes the impacts on traffic as much as is possible. To curtail use of this lane to emergency vehicles and buses only would be unnecessarily restrictive.

3. We cannot grant permission for passenger buses to travel against the flow of traffic when necessary. This would interfere to an unacceptable degree with the intended use of the lane for vehicle travel (including passenger buses) in the open direction.

15 March 1979

Department of the Army

Mr. Joseph L. Ignazio

Chief Planning Division

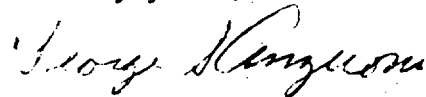
Ref: E.I.S. - Cape Cod Supl. #1

Page - 2 -

2. We propose, if at all possible, a single lane be provided for usage by buses, and of course any emergency vehicle that would have need to go against the flow of normal traffic. Should this request be unacceptable, we would like to be granted permission
3. for our buses to travel against the flow of traffic when necessary.

Whatever can be done to alleviate these problems would be sincerely and greatly appreciated.

Sincerely yours,



George Anzuoni,  
Treasurer

WILLIAM L. SALTONSTALL  
388 SUMMER STREET  
MANCHESTER,  
MASS. 01944

March 20, 1979

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
New England Division, Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Mr. Ignazio:

I have had an opportunity to review the draft supplemental environmental impact statement on the Bourne and Sagamore highway bridges. As you may recall, my principal interest was in preserving the opportunity for safe bicycle traffic-- in fact, encouraging it.

I can understand why bicycles might have to be banned from each bridge during construction. I hope that if this is so, bicycle traffic may be directed to the other bridge during such a time, and further that bicycle organizations and those other groups publishing maps for bicycle routes may be notified so that they might inform active bicycle users. It will be a considerable inconvenience for those bicyclists following the bicycle Route 1 from Boston to Cape Cod, as they will have to ride twice the length of the canal while the Sagamore bridge is being reconstructed in order to continue on their route. I hope that perhaps somehow this might be avoided, though I recognize that offseason bicycle traffic will be light.

With respect to the permanent arrangements for bicycles, as you know I was hopeful that a better bicycle passage way across the bridge might be developed than those at present. The existing elevated sidewalks are obviously the safest place for bicyclists but, because of their elevated nature without a fence, bicyclists are far better off walking their bicycles across the bridges.

If it is possible to adjust the roadway so that it is safe for bicycles to ride across the bridges, many of us would be greatly pleased. I had still hoped that a light-weight aluminum scaffolding sidewalk could be cantilevered outside the bridge.



MR. WILLIAM L. SALTONSTALL

1. Bicycle traffic will be directed to the other bridge when construction is underway. We have been in contact with bicycle interests and will continue to coordinate with them throughout the various stages of the projected work.
2. As indicated in Paragraph 4.13 of the FSEIS several alternatives to permanently improve the availability of the bridges to bicycles were considered, but none were found to be feasible.

Mr. Joseph L. Ignazio

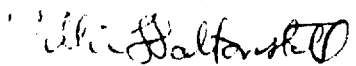
2.

March 20, 1979

Finally, I am delighted to read that efforts will be made to facilitate bicycle traffic approaching and getting on the renovated bridges. This is an activity which seems to be growing. Cape Cod is regarded as one of the more attractive areas in New England for bicycling, so it may be expected to grow even further.

I appreciate your interest and concern.

Sincerely yours,

  
William L. Saltonstall

WLS:ml



U. S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION ONE  
100 Summer Street, Suite 1517  
Boston, Massachusetts 02110

Subj: Draft Supplemental Environmental Impact Statement  
Bourne and Sagamore Highway Bridges Crossing the  
Cape Cod Canal, Massachusetts

IN REPLY REFER TO:  
HB-MA

March 22, 1979

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
New England Division, Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Mr. Ignazio:

We have reviewed the subject Draft Supplemental Environmental Impact Statement and have no comments to offer.

We appreciate the opportunity to review the analysis of the anticipated impacts of this action.

Sincerely yours,

N. J. Van Ness  
Division Administrator

*Edwin P. Holahan*

By: Edwin P. Holahan  
Assistant Division Administrator

FEDERAL HIGHWAY ADMINISTRATION

No response required.



# CAPE COD CHAMBER OF COMMERCE

## Officers:

JOHN M. KAYAJAN, President  
Sagamore  
H. L. BUDGE HALL, JR., 1st Vice-President  
Wellfleet  
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Barnstable  
MICHAEL J. FRUCCI, Executive Secretary  
South Yarmouth

est. 1921

Junction U. S. Route 6 (Mid-Cape Highway) & Route 132  
Hyannis, Cape Cod, Massachusetts - 02601

Area Code 617 — 362-3225

March 23, 1979



## Directors:

F. N. BARKER  
Provincetown  
PHILIP J. BARONI  
Hanwich  
MYLAN COSTA  
Provincetown  
LUTHER A. CROWELL  
Wellfleet  
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RUTH K. MCKINSTRY  
Dennis  
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Sandwich  
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Orleans  
ROBERT W. STONE  
Dennis  
GUY R. TEDESCO  
Mashpee  
BROOKS B. THAYER  
Orleans  
CHARLOTTE F. YACKER  
Barnstable  
Director Ex Officio  
COMMANDER  
Ottis Air Force Base

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Education Committee  
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Golf Committee  
GUY R. TEDESCO, Mashpee  
Planning & Conservation Committee  
EDWARD J. SMITH, Orleans  
Resort Committee  
RICHARD J. VANDER MAY, Eastham

Mr. Joseph L. Ignazio  
Chief Planning Division  
Department of the Army  
New England Division, Corps of Engineers  
424 Trapelo Rd.  
Waltham, Ma. 02154

Dear Mr. Ignazio:

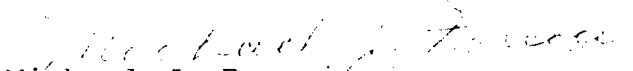
Again may I express my sincere appreciation for your consideration of our previous suggestions regarding the Rehabilitation project of the Bourne and Sagamore Bridges.

I realize you are doing all that is possible to avoid the destruction of the Cape Cod economy. I would offer one possible suggestion that might be explored. My experience has shown that there is a greater flow of traffic in the Fall period than there is during the Spring months. If all remains normal, perhaps you may consider not going to the fully operational use of the Bridge construction until the second week in June, and perhaps considering leaving the Bridge construction fully operational until the second or perhaps the third week in September. It might be worth this consideration after the first year of experience in the project.

If there is any way in which I as the Director of the Chamber could provide assistance, please do not hesitate to call upon me, and again I thank you for listening to our Bridges suggestions at your various hearings.

Yours very truly,

CAPE COD CHAMBER OF COMMERCE



Michael J. Frucci  
Executive Secretary

mjf/1

CAPE COD CHAMBER OF COMMERCE

1. We appreciate your suggestion, and will explore this possibility during our first year of experience in the project.



SOUTHEASTERN REGIONAL PLANNING AND  
ECONOMIC DEVELOPMENT DISTRICT

MARION, MASSACHUSETTS 02738, Tel. (617) 748-2100

March 27, 1979

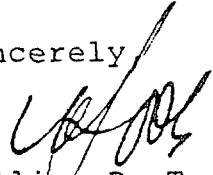
Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
New England Division  
Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02154

Dear Mr. Ignazio:

The Draft Supplemental Environmental Impact Statement concerning the Major Rehabilitation of the Bourne and Sagamore Highway Bridges has been reviewed by SRPEDD staff and the following comments have been developed:

- While there will be some inconvenience and traffic delays, the rehabilitation of the bridges is of great public importance, and should proceed. Reasonable measures to reduce the impacts have been proposed.
- The bridges are outside the SRPEDD region, so the impact is indirect, through reduced accessibility for trips with one end in Cape Cod and the other end in the SRPEDD Region or beyond. It is not likely that traffic volumes on Routes 6 and 28 in Wareham will be significantly affected.
- Park and ride lots, where commuters can transfer from their private autos to a bus, might be provided on the south side of the canal at both bridges, to reduce the traffic volume on the bridges, subject to a review of the ridership potential.

Sincerely,

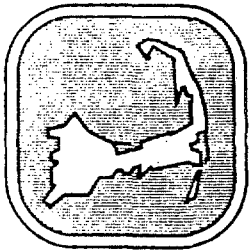
  
William D. Toole  
Executive Director

WDT:SW:cg

SOUTHEASTERN MASSACHUSETTS REGIONAL PLANNING DISTRICT

1. Park and ride lots would appear to be applicable to a larger number of commuters at the Sagamore Bridge than at the Bourne Bridge. As indicated in Paragraph 2.18 of the FSEIS, a commuter parking lot currently exists to the south of the Sagamore Bridge, at the junction of Routes 6 and 132 in Barnstable. However, local transportation planners believe that the actual demand greatly exceeds the available 210 parking spaces. Should local officials determine the need for any additional such facilities at, or serving, either of the bridges, the Corps will be glad to cooperate with them.





CAPE COD PLANNING AND ECONOMIC DEVELOPMENT COMMISSION

1ST DISTRICT COURT HOUSE, BARNSTABLE, MASSACHUSETTS 02630

TELEPHONE: 617-362-2511

April 2, 1979

Colonel John Chandler, Division Engineer  
New England Division  
U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02154

Dear Colonel Chandler:

Our review of the Draft Supplemental Environmental Impact Statement concerning Major Rehabilitation of the Bourne and Sagamore Highway Bridges was completed at the March 29 meeting of this Commission. At that time, Commission members expressed by unanimous vote their support for this proposal.

Thank you for submitting this document for our review.

Very truly yours,

Robert E. Robes  
Executive Director

cc: State Clearinghouse

CAPE COD PLANNING AND ECONOMIC DEVELOPMENT COMMISSION

No response required.



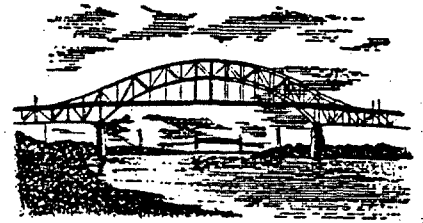
# TOWN OF BOURNE

## BOARD OF SELECTMEN

24 Perry Avenue  
BUZZARDS BAY, MASS. 02532

TEL. 759-4486 OR 759-4487

April 3, 1979



ROBERT W. PARADY, CHAIRMAN  
BARRY H. JOHNSON  
ROBERT J. KILDUFF

Colonel John Chandler, Division Engineer  
New England Division  
U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02154

Re: Draft Supplemental Environmental Impact Statement - Bourne and Sagamore Highway Bridges

Dear Colonel Chandler:

We appreciate this opportunity to submit comments concerning the Cape Cod Canal bridges rehabilitation projects.

The following comments are respectfully offered as our major areas of concern:

1. Section 4.01. Impacts on Traffic.

A. 4.03. We concur that a single lane should remain open on the bridge under construction. This lane should have the following priorities:

- (1) Emergency vehicles, i.e., fire, police and ambulance vehicles should be given top priority in both directions.
- (2) School buses should be given priority in both directions.
- (3) Town DPW vehicles, to the extent feasible, should be given two-way priority. The Town will use its best efforts to schedule DPW work to coincide with the normal one-way traffic flow.
- (4) Passenger vehicles. Provisions should be made for routine traffic to traverse the bridge under construction in the morning hours in a northerly direction, and in the afternoon in a southerly direction.
- (5) Passenger buses and trucks. In order to maintain a smooth flow of passenger vehicles over the bridge under construction, it would be advisable to exclude passenger buses and trucks and reroute these vehicles to the fully open bridge.

2. In any event, the open lane on the bridge under construction would have

TOWN OF BOURNE, BOARD OF SELECTMEN

1. We agree with the indicated priorities, with the exception that passenger buses will be allowed to use the single lane in the open direction. All priorities would be subject, of course, to changes that might be suggested by actual experience, once the project is underway. Any changes under consideration would be fully coordinated with local officials.
2. The open lane will be under police control as indicated in Paragraph 4.03 of the FSEIS. Officers will be stationed at both sides of the bridge, and will be equipped for two-way communications.
3. As indicated in Paragraph 4.10 of the FSEIS, the Corps has been working closely with the Massachusetts Department of Public Works to coordinate the Route 25 tie-in construction and the Bourne Bridge rehabilitation schedules. We will continue to do so, to minimize the effects on traffic as much as is possible.

Colonel John Chandler  
April 3, 1979  
Page 2

2. to be controlled by police officers with radios on both sides of the bridge.

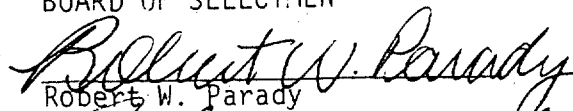
2. Section 4.10. Coordination with Construction of Route 25.

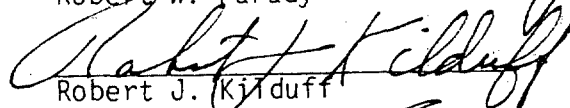
3. To the extent feasible, the Corps of Engineers and the Massachusetts Department of Public Works should coordinate the schedules for the construction of these two projects in order to minimize traffic disruption.

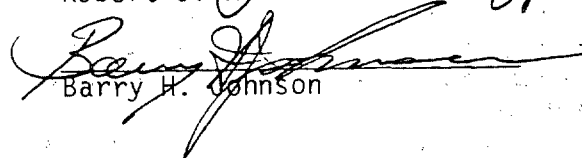
Thanking you for the opportunity to comment, we are

Very truly yours,

BOARD OF SELECTMEN

  
Robert W. Parady

  
Robert J. Kilduff

  
Barry H. Johnson

RWP/njs

cc: Police Chief  
Planning Board  
Fire Chief  
Supt. of Schools  
Highway Surveyor



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Federal Building, 14 Elm Street  
Gloucester, Massachusetts 01930

APR 6 1979

Col. John P. Chandler  
Division Engineer  
Department of the Army  
Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Colonel Chandler:

This is in reference to Mr. Joseph Ignazio's letter of March 5, 1979, concerning the Draft Supplemental Environmental Impact Statement for the Major Rehabilitation of the Bourne and Sagamore Highway Bridges crossing the Cape Cod Canal, Massachusetts.

We have reviewed the proposed action described in the subject document and find that marine fisheries and associated resources should not be significantly affected.

Sincerely,

*Marvin F. Bousso*

*Robert W. Hanks*  
Robert W. Hanks  
Acting Regional Director



DEPARTMENT OF COMMERCE, NATIONAL MARINE FISHERIES SERVICE

No response required.



CITY OF NEW BEDFORD, MASSACHUSETTS

EXECUTIVE DEPARTMENT

OFFICE OF THE MAYOR

P. O. BOX A-2089

999-2931

JOHN A. MARKEY  
MAYOR

April 5, 1979

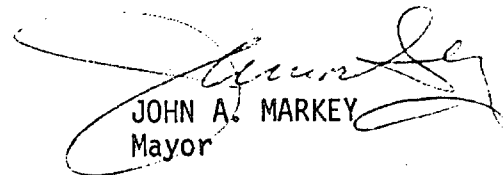
Joseph Ignazio  
Chief, Planning Division  
ARMY CORPS OF ENGINEERS  
424 Trapelo Road  
Waltham, MA 02154

Dear Mr. Ignazio:

My office has reviewed the draft Environmental Impact Statement prepared by the Army Corps of Engineers for major rehabilitation of the Bourne and Sagamore Highway Bridges.

The rehabilitation proposed appears to be genuinely needed and since the summer traffic will not be affected by this project, the City of New Bedford gives its support to the project.

Sincerely yours,

  
JOHN A. MARKEY  
Mayor

/mw



CITY OF NEW BEDFORD, MAYOR'S OFFICE

No response required.



ANTHONY D. CORTESE  
~~XXXXXXXXXXXX~~  
COMMISSIONER

# *The Commonwealth of Massachusetts*

*Executive Office of Environmental Affairs*

*Department of Environmental Quality Engineering*

*100 Cambridge Street, Boston 02202*

April 11, 1979

New England Division  
U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

RE: Draft EIS - Supplement #1  
Major Rehabilitation of the Bourne  
and Sagamore Highway Bridges

Gentlemen:

The Department of Environmental Quality Engineering has reviewed the Draft Supplemental Environmental Impact Statement titled "Supplement No. 1 Major Rehabilitation of the Bourne and Sagamore Highway Bridges" and dated March 1979.

As a result of this review, the Department is of the opinion that all alternatives for accomplishing the project in an environmentally acceptable manner have not been addressed in the subject report.

Specifically, the following aspects of the proposed action should be examined in greater detail:


1. Sand blasting should be conducted in a manner that minimizes sand and blasted material emissions to the ambient air. This could be accomplished by the use of a suitable enclosure under negative pressure and exhausted through an air pollution control device.
2. All surface coatings applied should be lead free. This technology is available and has been used in other areas.
3. Provisions should be made to dispose of all wastes containing hazardous materials in an environmentally acceptable fashion. Such wastes would include material collected from the sand blasting operation.
4. Allowing about 10 per cent of the old paint (possibly containing lead and/or mercury) to fall into the canal may have an adverse impact on shellfish quality in adjacent areas and is unacceptable.

MASS. OFFICE OF ENVIRONMENTAL AFFAIRS, DEPARTMENT OF ENVIRONMENTAL  
QUALITY ENGINEERING

1. As indicated in Paragraph 4.15 of the FSEIS, shrouding of the bridges to provide an enclosure for retrieving blast materials is not practical. High wind velocities frequently occur at the bridges because of their location and height, making the installation of shrouding an extremely hazardous undertaking. Even if installed, such a system would require elaborate supports and precautions to reduce the possibility of tearing to an acceptable level. The construction contract specifications require that materials falling to the ground in the vicinity of the bridges be collected for proper disposal. Materials which are deposited on horizontal surfaces on the superstructures and piers will be collected and disposed of properly. No materials will be deliberately swept off of such surfaces to the ground or water below.
2. Changing the paint system on the bridges to a lead-free system would require complete removal of the existing, leaded, system. This would result in greater pollution than spot cleaning and repainting with the existing system, as proposed. Such a change, to a vinyl, lead-free system, was contemplated in the early planning phase of the project, but was rejected as being unacceptable environmentally as well as excessively costly.
3. All waste materials from the project will be required to be disposed of in accordance with the applicable requirements of the Commonwealth. Also, for sandblast materials, see response #1, above.
4. The Corps feels that the removal of approximately ten percent of the old, leaded, paint systems of the bridges and repainting with a leaded system will not appreciably elevate lead levels in the air, water or on the ground. However, since concern has been indicated by several agencies, a consultant will be retained to advise us on this matter. Should monitoring or mitigative measures be in order, the Corps will be prepared to take whatever steps are necessary to protect the public health and welfare and fish and wildlife resources.

Should you have any questions or wish to meet relative to these matters, personnel from the Department of Environmental Quality Engineering would be pleased to accommodate you. Questions or correspondence relative to this matter should be directed to Paul T. Anderson, Regional Environmental Engineer, Department of Environmental Quality Engineering, Lakeville Hospital, Lakeville, Massachusetts 02346 - Telephone (617) 947-1231.

Very truly yours,

  
*Acting* Anthony D. Cortese, Sc.D.  
Commissioner

C/lp/RED

cc: Mr. John Bewick, Secretary  
Executive Office of Environmental Affairs

Region 1 Administrator - U.S. EPA

Board of Selectmen  
Perry Avenue  
Buzzards Bay, Mass. 02532

Board of Health  
Perry Avenue  
Buzzards Bay, Mass. 02532

Mr. Anderson, Southeast Region

Mr. Burke Limeburner  
Bourne Dept. of Natural Resources  
Perry Avenue  
Buzzards Bay, Mass. 02532

A-95, Room 1404  
100 Cambridge Street  
Boston, Mass. 02202



GEORGE A. LUCIANO  
Secretary

# *The Commonwealth of Massachusetts*

*Executive Office of Public Safety*

*One Ashburton Place*

*Boston, Massachusetts 02108*

April 25, 1979

Joseph L. Ignazio, Chief  
Planning Division  
Department of the Army  
New England Division  
Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Chief Ignazio:

We have received the Draft Supplemental Environmental Impact Statement on the rehabilitation of the Bourne and Sagamore Bridges. The information has also been reviewed by the Commissioner of Public Safety and the Superintendent of the Massachusetts State Police. They will be considering the details in the Statement, particularly those related to the highway traffic situation.

We did not provide earlier comments in response to your March 5, 1979, letter, as we did not have anything significant to add.

The Statement is well done and provides review material for the State Police for preliminary planning purposes.

Future correspondence on this subject, which is related to public safety, should be addressed to me at the following address: John W. McCormack State Office Building, Room 2133, One Ashburton Place, Boston, 02108.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "George A. Luciano".

George A. Luciano  
Secretary of Public Safety

GAL/mrw

MASSACHUSETTS DEPARTMENT OF PUBLIC SAFETY

No response required.



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
COMMANDER (obr)  
FIRST COAST GUARD DISTRICT  
150 CAUSEWAY STREET  
BOSTON, MA 02114

Tel: 617-223-0645

16590

28 APR 1979

From: Commander, First Coast Guard District  
To : Chief, Planning Division; Army Corps of Engineers

Subj: Draft Supplemental Environmental Impact Statement concerning major repairs to highway bridges over Cape Cod Canal; comments on

Ref : (a) N.E.D., CofE ltr dtd 5 March 1979

1. The Draft Statement concerning the repair of the highway bridges over the Cape Cod Canal has been reviewed as you requested.

2. We should be advised at least 15 days in advance of any work which may affect navigation. The installation of protective panels or safety nets under the bridge and the resultant decrease of the vertical clearance is an example of what should be reported.

3. Thank you for the opportunity to review the draft statement.

*W. J. Naalty*  
W. J. NAULTY  
By direction

UNITED STATES COAST GUARD

1. The Corps will advise the First Coast Guard District at least 15 days in advance of any work which may affect navigation.





DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
REGION I

JOHN F. KENNEDY FEDERAL BUILDING  
GOVERNMENT CENTER  
BOSTON, MASSACHUSETTS 02203

OFFICE OF THE  
PRINCIPAL REGIONAL OFFICIAL

April 30, 1979

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
New England Division,  
Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Mr. Ignazio:

HEW has completed it's review of the draft supplemental EIS for the Cape Cod Canal.

The draft EIS proposes to shut down all but one, one-way lane on one of the two bridges. This will of course cause traffic problems which are being dealt with by the Corps of Engineers. However, traffic diversion or disruption may have an impact on the traffic patterns of students in the local school systems and emergency medical services.

1. Although the Selectmen in Sandwich have commented to some extent on both problems, it doesn't appear that the School Superintendant or local hospitals have been given the opportunity to comment. This is my primary concern on the EIS. I recommend that these people be given the opportunity to comment since they would be most familiar with the affects that disruption might have.

2. The draft EIS also speaks of sandblasting and falling paint (new and old). Although the EIS comments on aesthetic affects, I would also question whether any lead paint might be involved. If so, what impact would this have on children, or on a aquatic life that might later be consumed.

Thank you for giving us the opportunity to review and comment on this document.

Sincerely yours,

Donald Branum  
Regional Environmental Officer

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

1. Copies of the Draft Supplemental EIS were sent to all of the towns on Cape Cod and nearby towns on the mainland, to all Regional Planning Commissions in the area and to SE Massachusetts Health Planning and Development, Inc. In addition, the EIS was widely publicized in the local media. Last summer's Public Information Workshop was also widely publicized and open to all interests. We feel that through these various means, the groups you mention have had ample opportunity to express their concerns. Furthermore, specific steps have been taken to protect the access needs of emergency vehicles and of school buses from the towns of Bourne and Sandwich (see comment #1 from Bourne Board of Selectmen, and our response, as well as Paragraphs 4.03 and 4.09 of the FSEIS).

2. See responses to comments #2 and #4 by the Massachusetts Department of Environmental Quality Engineering.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

April 30, 1979

Mr. Joseph Ignazio  
Chief, Planning Division  
U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02154

Dear Mr. Ignazio:

We have completed our review of the Draft Supplemental Environmental Impact Statement (EIS) for the proposed Major Rehabilitation of the Bourne and Sagamore Highway Bridges, and offer the following comments for your consideration.

1. An air pollution problem may be generated by the traffic on or near the bridges during the peak hours of the part of construction season shortly before and after the Memorial Day to Labor Day period, which may, as indicated on page 4-2, be heavy enough to cause backups in the heavier-trafficked direction. It is suggested that the air quality in the vicinity of the bridges during the above mentioned worst congestion period be estimated to determine whether or not the traffic emissions will cause adverse health effects on the pedestrian and bicycles on or near the bridges and residents near the access roads.

2. We request that the Final EIS clarify whether potentially adverse effects caused by lead contained in the falling paint stripped from the bridges was taken into consideration when the statement on page 4-4 was made that falling paint will cause no significant effect on the local ecology.

3. The project will cause an increase in noise levels due to increased traffic, slow speeds of trucks, and construction activity (pavement breakers, air compressors, sand blasters, etc.). Possible abatement strategies could include allowing all construction noise sources with maximum noise levels above 55 dBA to be operated only during non-sleep hours, and implementing all feasible actions that would promote steady traffic flow (adequate traffic control, tow trucks and service vehicles standing by on the scene during heavy traffic hours).

U. S. ENVIRONMENTAL PROTECTION AGENCY

1. Traffic backups shortly before Memorial Day and after Labor Day are expected to be no worse than during peak hours of July and August with both bridges fully functional. Hence, the resulting air pollution should not attain levels any higher than those normally experienced at these summertime peaks.
2. See responses to comments #2 and #4 by the Massachusetts Department of Environmental Quality Engineering.
3. The nearest residence to the Bourne Bridge is on the southwest side, at a distance of 214 feet. The nearest residence to the Sagamore Bridge is on the northeast side, at a distance of 178 feet. The contractor's operations which would significantly increase noise levels at nearby residences will, to the greatest extent possible, be scheduled during non-sleeping hours. The noise due to traffic itself will be significantly decreased because of the restrictions placed on traffic, particularly truck traffic, during the construction season.

Mr. Joseph Ignazio  
Page Two  
April 30, 1979

We request that the Final EIS contain a more thorough noise assessment by providing the following information:

- 3.
- distances to nearest residences and sensitive use buildings
  - current ambient noise levels
  - levels of possible construction and traffic noise levels at residences and sensitive use buildings
  - noise abatement strategies.

In accordance with our national rating system, we have rated this EIS LO-2 (see enclosed explanation). We would appreciate receiving one copy of the Final EIS when it becomes available.

Sincerely,

*Elizabeth A. Haggan for*

Wallace E. Stickney, P.E.  
Director, Environmental & Economic  
Impact Office

Enclosure

## EXPLANATION OF EPA RATING

### Environmental Impact of the Action

#### LO -- Lack of Objections

EPA has no objections to the proposed action as described in the draft environmental impact statement; or suggests only minor changes in the proposed action.

#### ER -- Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating federal agency to reassess these aspects.

#### EU -- Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

---

### Adequacy of the Impact Statement

#### Category 1 -- Adequate

The draft environmental impact statement sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

#### Category 2 -- Insufficient Information

EPA believes that the draft environmental impact statement does not contain sufficient information to assess fully, the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft environmental impact statement.

#### Category 3 -- Inadequate

EPA believes that the draft environmental impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft environmental impact statement is assigned a Category 3, no rating will be made of the project or action; since a basis does not generally exist on which to make such a determination.

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# *The Commonwealth of Massachusetts*

*Executive Office of Transportation and Construction*

*Department of Public Works*

*100 Nashua Street, Boston 02114*

BOURNE AND SAGAMORE HIGHWAY BRIDGES  
ENVIRONMENTAL IMPACT STATEMENT

April 27, 1979

Mr. Joseph L. Ignazio  
Chief, Planning Division  
Department of the Army  
NED, Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Mr. Ignazio:

The Department has reviewed your Draft Supplemental Environmental Impact Statement dated March, 1979 on the Bourne and Sagamore Bridges rehabilitation project and has found it acceptable.

Very truly yours,

*Justin L. Radlo*

Justin L. Radlo  
Chief Engineer

EMF/am

MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS

No response required.





# United States Department of the Interior

## OFFICE OF THE SECRETARY

Northeast Region

15 State Street

Boston, Massachusetts 02109

ER79/253

May 2, 1979

Col. John Chandler  
Division Engineer  
New England Division, Corps of Engineers  
424 Trapelo Road  
Waltham, Massachusetts 02154

Dear Col. Chandler:

This is in response to your request for the Department of the Interior's comments on the draft supplement No. 1 to the FES for Cape Cod Canal, Rehabilitation of the Bourne and Sagamore Highway Bridges, Barnstable County, Massachusetts (ER 79/253).

The subject document was found to be adequate with respect to our concerns. Although the movement of mineral commodities may be slightly impeded during the construction period, we do not expect this to be significant.

Sincerely yours,

William Patterson  
Regional Environmental  
Officer

UNITED STATES DEPARTMENT OF THE INTERIOR

No response required.



## HEADQUARTERS CAMP EDWARDS

Mass ARNG Training Site  
Camp Edwards, MA 02542

CP-EDW

10 May 1979

SUBJECT: Rehabilitation of Bourne and Sagamore Bridges

Mr. Joseph L. Ignazio  
Chief Planning Division  
New England Division, Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02154

1. References: Draft Supplemental Environmental Impact Statement, Supplement No. 1 dated March 1979; and telephone conversation dated 12 April 1979.
2. In regard to the re-routing of traffic, special consideration must be taken in scheduling military convoys traveling to and returning from Camp Edwards for annual and inactive duty training throughout the year.
3. To prevent any serious problems from occurring there will have to be a concerted effort made by both your division and the Mass Army National Guard to coordinate alternate traffic patterns to accomodate the military convoys.
4. As the situation arises military police will be made available to facilitate the movement of convoys over both the Sagamore and Bourne Bridges.
5. Details of scheduling a convoy will be worked out prior to the actual date the convoy is to arrive at or depart from Camp Edwards.

*for Lawrence J. Medhurst - MAS*  
WILLIAM B. CREAMER

COL FA MassARNG  
Commander, Camp Edwards

CAMP EDWARDS

The Corps appreciates your concern regarding military convoys. Necessary arrangements will be made between our two offices, to facilitate the passage of military traffic over the bridges.